The Writing Conference as a Medium for Teaching Academic Writing in English

Revising cohesion with L2 master's students

Julia Norta
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University of Helsinki
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Tiivistelmä – Referat – Abstract
Englannin asema tieteen valtakielenä vahvistuu jatkuvasti, mikä näkyy Suomessa esimerkiksi siten, että korkeakoulututkintojen opinnäytteet, erityisesti maisterintutkielmat kirjoitetaan yhä useammin englanniksi. Näiden tutkielmien kielellisen laadun kannalta on olennaista, että opiskelijat, joille englanti ei ole äidinkieli, saavat tukea tekstiensä kirjoittamiseen. Tässä tutkielmassa esitellään esimerkki siitä, miten tällaista tukea voidaan tarjota niin kutsutun *writing conference* -menetelmän avulla. Tutkimuskirjallisuudessa *writing conference* tarkoittaa vuorovaikutteista palautteenantomenetelmää, jossa opettaja ja oppilas käyvät kahdenkeskisen keskustelun oppilaan tekstistä tai kirjoittamisprosessista. Tarkoituksena on yleensä myös työstää yhdessä oppilaan tekstiä ja sitä kautta edistää oppilaan kirjoitustaidon kehittymistä.

Tutkimuksessa tarkastellaan englanninkielisiin tutkielmateksteihin tehtyjä revisioita *writing conference*-tilanteessa, jossa englantia vieraana kielenä puhuvat maisteriopiskelijat muokkaavat tekstejään englantia äidinkielenään puhuvan kirjoittamisen opettajan johdolla. Tutkielman laajuuden rajaamiseksi analyysi kohdistuu yhteen akateemisen kirjoittamisen kannalta keskeiseen kielen piirteeseen eli koheesioon liittyviin revisioihin. Tavoitteena on selvittää, kuinka paljon koheesiopirteisiin puututaan, millaisia revisioita niihin tehdään ja millaisen roolin opettaja omaksuu revisioiden tekemisessä.

Tutkimuksen aineisto on kerätty osana suomalaisessa yliopistossa pidettäviä *writing conference* -tapaamisia. Aineisto sisälsi kuusi tapaamista, joissa kussakin yksi insinööriopiskelija ja opettaja muokkasivat opiskelijan maisterintutkielman johdantolukua. Opettaja videoi tapaamiset tietokoneen ruudun nauhoitustoiminnolla siten, että muokattava teksti näkyi opettajan ruudulla ja tekstistä käyty keskustelu tallentui videolle. Videot ja niistä tehdyt litteraatit analysoitiin kvalitatiivisesti. Kustakin sessiosta koodattiin kaikki kahteen koheesiopiirteeseen, referenssiin ja konnektoreihin, liittyvät revisiot Hallidayn ja Hasanin (1976) koheesioteorian pohjalta, jonka jälkeen revisiot luokiteltiin neljään ryhmään. Tämän jälkeen analysoitiin, miten revisiot tehtiin keskittyen tyypillisiin piirteisiin opettajan toiminnassa.

Tulokset osoittivat, että koheesioon puututtiin suhteellisen vähän. Koheesiotyypeistä enemmän puututtiin referenssiin. Noin puolet revisioista oli korvauksia (*substitution*) kun taas poistoja (*deletion*) tehtiin hyvin vähän. Opettajan tyypillisiä toimintatapoja revisioiden tekemisessä olivat kysymysten esittäminen, eri vahvuiset direktiivit, revisiotarpeiden selittäminen sekä joissain tapauksissa opetusmateriaalien käyttö. Tulosten valossa voidaan todeta, että *writing conference* -tapaamiset luovat potentiaalisen kanavan tutkielmatekstien laadun kohentamiselle sekä vieraan kielen kirjoitustaidon kehittämiselle, joten menetelmää voitaisi tulevaisuudessa käyttää laajemminkin akateemisen kirjoittamisen opetuksessa.

Avainsanat – Nyckelord – Keywords
Akateeminen kirjoittaminen, kirjoittamisen opetus, revisio, koheesio

Säilytyspaikka – Förvaringställe – Where deposited
Helsingin yliopiston kirjasto

Muita tietoja – Övriga uppgifter – Additional information

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1 Introduction

English has become the dominant language of research and academia. In order to participate in the global creation of knowledge, scholars around the world are pressed to write their works in English. In Finland, research is published in English to such an extent that some are worried about how it will affect the status of the Finnish language. A point of concern is that English taking over as the language of science and research will eventually reduce Finnish to a language of everyday communication (Sandell, 2018). The decreasing importance of Finnish in academia can be seen for example in the number of English-language degree programs in Finland's higher education. In 1996, there were 75 English language programs in Finnish universities and polytechnics. By the end of 2008, there were 280 such degree programs (Saarinen, 2012, p. 164). Currently, Finnish higher education institutions offer more than 400 bachelor's and master's programs that are taught in English (The Finnish National Agency for Education, 2020). There are two main reasons for this increase. First, these programs make it possible for students with no knowledge of Finnish to study in Finland. Second, these programs prepare Finnish speaking students for the increasingly international professional life where English is used as a lingua franca (Saarinen, 2012, p. 164).

Hyland (2009, p. 4) states that English becoming the lingua franca of research and scholarship has significant implications for higher education. In Finland, a natural consequence of both the increasing number of degree programs in English and the growing importance of the English language in academia is that an increasing proportion of master's theses are written in English. In Finnish master's degree programs, it is compulsory to write a thesis that reflects original research conducted by the student. As this high stakes writing increasingly occurs in English, questions of language regulation gain more importance. Language regulation in this context refers to "the practices through which language-users monitor, intervene in, and manage their own and others' language use" (Hynninen and Solin, 2017, p. 270). Thus, in terms of thesis writing, questions to be answered include who regulates the language of student writers and what are the requirements for the quality of their writing.

At least in Finland most thesis supervisors are non-native writers of English themselves, so it can be questioned whether they are the best regulators for the language of their students. Another option is to bring in native speakers to regulate students' writing. These regulators may not be professionals in the student's field of study but are professionals in academic

writing in English. Lillis and Curry (2010) call these regulators “literacy brokers”. They are mediators of language who get involved in shaping the texts of non-native writers as their texts pass through various stages on the way to publication. These brokers are seen as a way to get around the disadvantage that non-native researchers are known to be at in getting their research published (Charles, 2013, pp. 144–146). Although thesis writing is not published research, the increasing number of theses written by non-native English speakers is likely to have consequences for language regulation.

This thesis presents an example of language regulation through “brokering” in the context of revising master’s theses written by non-native speakers of English. More specifically, the study seeks to uncover how language is regulated in a writing conference setting in which engineering master’s students revise the introduction chapters of their theses with the help of a native English-speaking writing teacher. Writing conferences are one-on-one teacher-student conversations about the student’s writing or writing process (Bayraktar, 2012, p. 719). The main function of a writing conference is working on a student’s paper collaboratively, and the resulting interactive process is perceived to have the potential to help the student improve as a writer.

While there is an abundance of research on the role of feedback in writing instruction, studies on writing conferences with master’s students are relatively scarce. Furthermore, previous studies have often analyzed conference interaction and compared it to the subsequent changes students make to their papers after conference sessions to see whether and how revisions discussed in the sessions manifest in students’ later drafts. In contrast, the focus in this thesis is on revisions made during conference sessions. The data is different than in previous conference studies because it includes screen recording videos of revision sessions in which a writing teacher and a master’s student revise the student’s thesis collaboratively. In the videos, the student’s thesis is displayed on the teacher’s computer screen, and the teacher marks revisions as they are discussed. Thus, every move the teacher or student makes in revising the text can be noted and analyzed alongside the interaction that goes on between the participants.

The data for this study is collected from a university writing clinic service that offers help for students and staff with their writing in English. On its website, the writing clinic claims to have the pedagogical objective of making its clients better writers. In my study, I will analyze how this objective applies to the treatment of cohesion in student theses.

Cohesion is an appropriate research focus, because it is a central aspect of writing that even advanced L2 writers seem to struggle with (Hinkel, 2001, p. 128). Furthermore, cohesion is perceived to be an important factor for L2 students' writing quality (He, 2020, p. 762). Cohesion studies have mostly focused on how writers use cohesive features in their compositions, and in the case of L2 students, what types of errors are made. To my knowledge, no study has looked at how cohesion is revised, especially in a writing conference context.

As the need for teaching academic writing skills in English is constantly increasing, research into the various ways of teaching that array of skills is likely to have significant value. Therefore, the aim of my study is to provide insight into the use of writing conferencing as a method for teaching the use of cohesive features. The study is exploratory in nature. It merges cohesion and writing conference research and brings them into a context where they have not been studied before. The objective of the analysis is to demonstrate how a revision process functions in a writing conference setting with regard to an essential aspect of academic writing, i.e. cohesion. A better understanding of the process will be beneficial for evaluations of the usefulness of conferencing for both teaching academic writing to L2 students and for regulating their language. I will approach the objectives of the study by first investigating the extent to which two types of cohesion, reference and conjunction, are addressed in the sessions and then analyzing how the teacher attempts to teach their correct usage within the revision process. The thesis thus seeks to answer the following research questions:

1. To what extent are cohesive features revised in writing conference sessions with engineering master's students?
2. What types of revisions are made to cohesive features?
3. How are revisions concerning cohesive features made?

The structure of the thesis is as follows. Chapter 2 defines key concepts and reviews previous studies on writing conferences and cohesion in L2 writing. Chapter 3 describes the data analyzed in this study and the method used to answer the research questions. Chapter 4 presents the results of the analysis, and Chapter 5 discusses these findings. Finally, Chapter 6 concludes by summarizing the results and suggesting future work.

2 Literature Review

This chapter presents the theoretical background for the thesis, as well as reviews relevant previous research. Section 2.1 introduces the field of applied linguistics within which the study is situated. Section 2.2 defines the concept of a writing conference and reviews previous studies on conferencing. Finally, section 2.3 presents seminal theory on cohesion and previous research on cohesion in L2 writing

2.1 Context for the present study – English for academic purposes

According to Charles (2013), English for academic purposes (EAP) is a field concerned with teaching and researching the English used in academia. EAP is a subfield of English for specific purposes (ESP), yet a major research field in its own right. Over the last decades, its importance has increased substantially due to the global growth of English used in academia and for employment. EAP most often refers to university level contexts and non-native speakers of English (Charles, 2013, p. 137).

A central approach within EAP research is the investigation of the social context where academic tasks are performed. An important issue for this approach is the effect of the widespread adoption of English as the language of research publication on the position of scholars who are non-native speakers of English in academia (Charles, 2013, p. 145). It has been recognized that non-native researchers are at a disadvantage in getting their work published compared to their native colleagues (e.g Tardy, 2004; Uzuner, 2008). Therefore, a crucial consideration for EAP is how to get around this issue (Charles, 2013, p. 146). One solution offered by Lillis and Curry (2010) is to involve mediators of language referred to as "literacy brokers" in the writing process of non-native academics so as to help them enhance the quality of their texts. The present study includes an example of "brokering", though not in the context of published research but thesis writing.

One line of research in EAP is concerned with thesis and dissertation writing. Interest in this genre of academic writing stems to some degree from the assumption that thesis writing is a socially mediated activity in which students come to be members of a particular discourse community. As Thompson (2013) puts it: "The thesis can be seen, therefore, as the culmination of a multitude of experiences through which students are socialized into the values and the ways of doing that are conventional to a given research community" (Thompson, 2013, p. 290). In other words, through the process of producing a thesis, students

are expected to develop an understanding of the values and norms of their field. As students are often unsure about what the conventions of their field are (Thompson, 2013, p. 294), research into the ways of helping students acquire them is likely to be useful. Another starting point for research is the realization that producing a thesis is a challenging task for any student writer, but for those students writing it in a language that is not their first, the challenge is magnified. Thus, research is needed to inform the teaching and support of these students (Thompson, 2013, p. 284). Most research into thesis writing has focused on the so-called IMRD structured thesis in which the main chapters of the work are introduction, methods, results, and discussion (Thompson, 2013, p. 286). The present thesis follows this line of enquiry as the focus is on analyzing how the introduction chapter of a master's thesis is revised into a cohesive piece of text.

2.2 Writing conferences

The revision sessions analyzed in this study are referred to as writing conferences because they fit the definition of the concept as it is used in L2 writing research. It should be noted, however, that the sessions were held as part of a university service which is called "writing clinic". Thus, the term "clinic" is used only in contexts where specific reference needs to be made to the particular service where the data comes from. Otherwise, the sessions in this study as well as in previous studies are referred to as writing conferences. Section 2.2.1 defines what a writing conference is, and section 2.2.2 reviews previous writing conference studies.

2.2.1 Defining writing conferences

Writing conferences are one-on-one teacher-student conversations about the student's writing or writing process (Bayraktar, 2012, p. 709). According to Hyland and Hyland (2019), the writing conference method has benefits for both teaching and learning, as it enables a dialogue in which meaning and interpretation are constantly being negotiated by the student and teacher participants (Hyland & Hyland, 2019, p. 5). Writing conferences have long been used in composition pedagogy, but they made their way into second language writing courses later. This resulted from a paradigm shift from a product-centered teaching approach to a process approach. In other words, when the multiple-draft approach to writing was adapted from first language teaching into second language teaching as well, writing conferences became part of L2 writing pedagogy (Maliborska and Yu, 2016, p. 875).

According to Bayraktar (2012), writing conferences have been addressed in the research under several different names including response sessions, face-to-face interaction, one-to-one teaching, and interactive dialogues (Bayraktar, 2012, p. 709). In addition, conferences have been studied in different settings some being classroom-based and others writing center - based (Yu, 2020, p. 1). In the classroom-based setting, writing conferences are often held as part of a writing course (e.g. Maliborska and Yu, 2016). Conferencing in the writing center setting, on the other hand, usually refers to a service offered to students and staff at a university (e.g. Williams, 2004). Due to the varying settings, the instructor participant in the writing conference studies discussed in this thesis is sometimes referred to as "teacher" and other times "tutor". Regardless of setting, most writing conference research is conducted at the university level.

2.2.2 Writing conference studies

For several decades now, writing conferencing has been a point of interest in the field of L2 writing research. Studies on writing conferences have focused on various themes including teacher and student experiences (e.g. Eckstein, 2013; Maliborska and Yu, 2016), the nature of conference interaction, (e.g. Weissberg, 2006; Ewert, 2009; Merkel, 2018), learning effects (e.g. Williams, 2004; Goldstein and Conrad, 1990), and the role of teacher expertise (e.g. Mackiewicz, 2004).

Based on research, both students' and instructors' views on writing conferences are generally positive. Eckstein's (2013) study on the views of 14 teachers who had experience with writing conferencing found that the teachers perceived conferencing to have many benefits not only for giving feedback but also for other purposes like individualized teaching, answering students' questions related to writing, discussing learning goals, and assessing language proficiency. Further positive results were demonstrated in Maliborska and Yu's (2016) study. They gathered survey responses from 100 ESL students and eight teachers on their perceptions toward writing conferencing when it was integrated into a college composition course designed for ESL students. All the students had weekly conferences with a teacher over the semester long course. The survey results showed that conferences were perceived to be an effective component of the writing course. Benefits of conferencing perceived by the teachers included getting to know students better, having confidence in teaching, and meeting students' individual needs. Benefits perceived by the students included receiving individualized help and confirming revisions with the instructor. Both students and teachers believed that

conferences had an effect on the students' motivation to write better. The teachers did however feel that conferences required them to spend significant time on preparation and that to be successful conference sessions required the student to become an active participant instead of a passive listener.

While it is relatively easy to establish that writing conferences can have many potential benefits, a more difficult task yet a major research interest within writing conference studies is providing evidence of actual learning effects. Thus, studies have sought to find out whether conferencing makes better writers or leads to better-quality writing and if so, what is it in conferencing that contributes to this positive effect. A significant portion of these studies (e.g. Ewert, 2009; Williams, 2004; Weissberg, 2006) have adopted a Vygotskian learning theory perspective where the teacher is seen as an expert who scaffolds, or guides, the learning of the novice student participant. Scaffolding entails that the teacher assists the student to accomplish a task or solve a problem which the student could not accomplish alone (Ewert, 2009, p. 252).

According to Weissberg (2006), feedback delivered in writing conferences through scaffolded dialogue provides "an unparalleled opportunity to provide targeted, individualized instruction" to a student writer (Weissberg, 2006, p. 261). Weissberg makes this claim based on the results of a study in which he collected conversational data of two tutor-student writing conferences. The participant students were advanced learners of English as were the students in the present study. In both studies, the texts discussed in the sessions were academic papers, but in Weissberg's study they were dissertations whereas in the present study master's theses. From his data, Weissberg identified all the scaffolding mechanisms the tutor used and found them to include the creation of conversational links through questioning, repeating, rephrasing, completing, extending, and summarizing the student's contributions, as well as the expression of personal affiliation with the student. Although scaffolding episodes were relatively infrequent, they featured more and longer turns both for the student and tutor participants compared to the non-scaffolded episodes. Scaffolding seemed to occur most when the tutor did not have a ready solution to a problem in the text or when the tutor purposely took time to lead the student to discover a solution themselves rather than the tutor giving it to them directly. Weissberg's study demonstrated that scaffolding had a positive effect on the extent to which students participated in the conference, but whether this transferred to successful revisions of the text was not investigated. Thus, unlike in the present study, revisions in

Weissberg's study were not marked in the students' texts during the sessions but were only discussed.

To understand the actual learning effects of writing conferencing, studies have sought to uncover the connection between conference interaction and subsequent revisions students make to their texts. Williams' (2004) study found evidence of particular features of interaction contributing positively to the revisions students made after sessions. Namely, the uptake of tutor advice by students was higher when tutors' suggestions were clear, students actively participated in the session and wrote down their plans for revision during the session. Williams also found that certain scaffolding moves used by the tutor were effective in stimulating revisions. In particular, marking of critical features, simplification of tasks, continuous emphasis on the goals of a session, and providing model revisions evoked successful revision by the participant L2 first-year university students. Of these, Williams considered modelling to be somewhat problematic because it often entailed that the tutor told the student how they should revise, so the model revision actually functioned as a command instead of an example. Williams' data is comparable to that of the present study, as it included videos of conference sessions. The participants, however, were first-year undergraduate students and the papers discussed in the sessions were argumentative essays, so the level and type of academic writing at hand in Williams' study is different than in the present study.

In another study focusing solely on the role of teacher talk, Ewert (2009) demonstrated that a combination of scaffolding and negotiation moves in the teacher's talk was useful as it allowed teachers to vary their assistance in relation to the proficiency of students and promoted greater student participation in the conference interaction. In addition, a focus on fewer topics was found to be beneficial for learning and successful revisions as it made students attend better to the revision topics and participate more. Similar to Williams' (2004) study, the texts discussed in the sessions were argumentative essays and revisions were not made during the conference sessions. The sessions were also short (7–35 minutes) compared to those in the present study.

As the above studies show, promoting student participation in writing conferences seems to be important for learning. This was also demonstrated in Goldstein and Conrad's (1990) study which showed that getting students actively involved in negotiation with the teacher during conferences had a positive impact on the subsequent revisions students

made to their papers. Unsurprisingly, Goldstein and Conrad found that there was significant variation in the amount of input that students contributed. In some cases, the student and teacher contributed in equal amounts, but in other cases the student's contributions were merely backchannels. Thus, the extent to which students naturally engage in negotiation is likely to be influenced by individual factors, and this is an important consideration for conference teachers. Goldstein and Conrad point out that teachers may unintentionally adjust their behavior to the student's discourse style thereby reinforcing it. In the case of a student who participates little, this might have a negative effect in terms of the desired learning outcomes (Goldstein and Conrad, 1990, p. 455). Goldstein and Conrad's data included three or four sessions with each of the three participant students, so they were able to analyze the effect of individual differences better than studies like the present one in which the data includes only one session per each student.

Although the Vygotskian sociocultural perspective adopted in the studies reviewed above is relevant for studying conference interaction and potential learning effects, it should not be applied to all conference contexts. Merkel (2018) draws attention to the fact that in the context of academia particularly, the Vygotskian approach might be inappropriate. This is because in writing conferences with, for example, graduate and doctoral students, it is often the case that students are already relatively proficient in English, and they have highly specialized content knowledge from a topic area that the teacher is not familiar with. Thus, looking at conference interaction as teacher-led scaffolding is misguided because despite the teacher being an expert in language, they are a novice when it comes to the content of the student's writing. Merkel emphasizes the need to investigate dialogism in feedback interactions between conference participants in the above-mentioned cases.

Merkel's (2018) own case study looked at the nature of dialogic interaction in a context where both the teacher and the student participants need to tap into each other's areas of knowledge. He collected data of 17 writing conferences with a doctoral student over eight months. Analysis of the conference interaction showed that dialogic interactions often stemmed from questions or comments regarding the teacher's lack of understanding. Thus, dialogic interaction was needed to determine whether the lack of understanding was due to the teacher's limited content knowledge or lack of linguistic clarity in the student's writing. The analysis also pointed to three themes that dialogic interaction had a positive

effect on. The student's audience awareness increased, oral revision allowed the student to self-identify problems and reconcile them, and the teacher's acts of appropriation of student text were avoided better. Although the student in Merkel's studied at the doctoral level and the texts discussed were part of a book the student was writing, the conference interactions can be considered comparable to those in the present study in terms of the student having superior content knowledge.

Another case study on conferencing with a doctoral student by Woodward-Kron (2007) also found that the consultation analyzed was a dynamic interaction that included joint construction and negotiation of meaning. The participant student was a non-native speaker of English who sought help for revising the draft of a research report. Similar to the present study, revisions were made by the teacher participant as they were discussed during the session. However, unlike in the present study, the revisions were made based on comments the student had received on the paper from her supervisor. Woodward-Kron's analysis demonstrated that as the student was an expert on the content of the paper while the teacher was a language expert, both participants needed to seek information and clarification about each other's comments. Thus, interactive exchanges in the sessions consisted of one participant seeking information and the other providing clarification. From the pedagogical viewpoint, there were features in the teacher's behavior that were interpreted as facilitating learning. Namely, the teacher probed the student for further information and reformulated the student's verbal contributions. The teacher also explicitly directed the student on what should be revised. These directions were posed as either direct commands or as suggestions. Interestingly, the teacher did not use the Initiation Response Evaluation (IRE) discourse pattern typical of teacher-directed learning contexts. In other words, the teacher did not ask questions to which she knew the answer and rarely provided evaluative feedback to the student's responses. Notable in the student's way of participating was that she frequently challenged the teacher's suggestions which could be attributed to her superior content knowledge. The students in the present study are also more knowledgeable than the teacher content-wise, so it is of relevance to see whether similar features of conference interaction become evident in the present analysis.

Merkel (2018) and Woodward-Kron's (2007) studies raise up a final aspect of writing conferencing that is relevant to address here – teacher expertise. Studies have looked at the effect that teacher expertise in the student's area of study has on writing conference

interaction. As the data for this thesis comes from engineering writing, it is relevant to focus on that particular disciplinary discourse here. Mackiewicz (2004) points out that in many universities the tutors who help engineering students with their writing have very little expertise in the conventions of technical writing (Mackiewicz, 2004, p. 316). It is therefore useful to pay attention to the effect this lack of knowledge may have. In her study, Mackiewicz (2004) investigated the comments made by writing tutors in conferences with engineering students. One of the four participant tutors had experience in engineering writing while the other three did not have any such experience. None of the tutors were familiar with the topics of the students' papers. Mackiewicz's analysis of the topics of the tutors' comments and the politeness strategies they used showed that there were significant differences between the expert and non-expert tutors. The non-expert tutors focused on surface level features and some of their revision suggestions were inappropriate for engineering writing. It is likely that because they were not able to comment on deeper level features with confidence, they focused on what they could. The expert tutor, on the other hand, focused on purpose and audience in her comments. She varied the force of her suggestions depending on the degree to which following the suggestion was necessary, used politeness strategies effectively and gave specific compliments. Based on these differences, it is clear that a teacher's familiarity with the conventions of engineering writing plays an important role in both conference interaction and subsequent learning outcomes. The teacher in the present study is familiar with engineering writing, so it can be expected that there are some commonalities between the comments the teacher makes and those made by the expert tutor in Mackiewicz's study.

According to Hyland and Hyland (2019, p. 6), there is a need for more research on the effectiveness of feedback provided through conferences and on the nature of conference interaction between teachers and students. The purpose of this thesis is to address this research gap. Namely, to analyze the revision of cohesion in conferences where a native English-speaking writing teacher revises the introduction section of a master's thesis together with the non-native student writer. Furthermore, my search for previous studies into writing conferencing yielded only one study (Woodward-Kron, 2007) where the revision process was carried out in a similar way to the present study. In other words, I am not aware of other studies analyzing a revision process in which the teacher has the student's paper open on a computer screen and revisions are made directly on the document as they are discussed during the session. The focus with revisions in previous studies has been on the subsequent ones that

students make after a conference session, so the present study offers a fresh perspective by looking at the way revisions, despite not being final, are made during a writing conference session.

2.3 Cohesion

A seminal work in the field of cohesion, hence the theoretical foundation for cohesion in this thesis, is Halliday and Hasan's book *Cohesion in English* which was published in 1976. The book has had significant influence on the study of cohesion. Research interest toward cohesion has been immense and a number of models of analysis have been proposed (Tanskanen, 2006, p. 1). In addition to research, Halliday and Hasan's work has affected language teaching. According to Bloor and Bloor (1995), before 1976, cohesion was largely neglected particularly in teaching English as a foreign language. Most textbooks did not systematically address cohesive devices or misrepresented them. It was only after the publication of the book that cohesion came to be a standard element in English teaching syllabi (Bloor and Bloor 1995, pp. 229–230).

Halliday and Hasan's work on cohesion stems from the theory of systemic functional linguistics (SFL). The theory was founded by Halliday in the 1960s and it has since spread and been applied to a wide range of disciplines. The core premise of the theory is that language is an instrument of social interaction which has evolved to meet our communicative needs in society. The form of language should therefore be examined in relation to the functions it has evolved to serve (Herriman, 2012, p. 1). The theory states that language has three main functions which are ideational, interpersonal, and textual. Cohesion, along with the systems of information, and theme and rheme, falls under the textual function which refers to network systems for organizing the content of a message into a text (Herriman 2012).

According to Halliday and Hasan (1976), cohesion refers to the relations of meaning that exist within a text and define it as text (Halliday and Hasan, 1976, p. 4). Importantly, cohesion is semantic, because it entails that the interpretation of some element in a text is dependent on the interpretation of another element. A further important aspect of their conceptualization is that no linguistic element can be cohesive by itself, but when two elements in a text are related, a cohesive tie forms between them (Halliday and Hasan 1976, pp. 31-33). Cohesion is expressed partly through grammar and partly through vocabulary, so a distinction can be made between grammatical and lexical cohesion.

However, in terms of analyzing cohesion, the most important categorization Halliday and Hasan make is the division of cohesion into five categories. These categories are reference, substitution, ellipsis, conjunction, and lexical cohesion.

The focus in this thesis is on reference and conjunction (a reasoning for this is provided in chapter 3) meaning that only those revisions that concern these categories are analyzed. Halliday and Hasan (1976) define reference as a way of creating cohesion through the use of items that make reference to something else for their interpretation. In other words, the identities of these items have to be retrieved from elsewhere in the text. An example of how reference items function can be seen in the following sentence pair from Halliday and Hasan: *Doctor Foster went to Gloucester in a shower of rain. He stepped in a puddle right up to his middle and never went there again* (Halliday and Hasan, 1976, p. 31). In the second sentence, there are three reference items: *He* and *his* which refer to *Doctor Foster* and *there* which refers to *Gloucester*.

Conjunction, on the other hand, refers to cohesive ties between clauses or sections of text through the use of such linguistic items that create meaningful relationships between them (Halliday and Hasan, 1976). An example of how conjunction items link sentences together is seen in the following sentences from Halliday and Hasan: *He was very uncomfortable. Nevertheless, he still fell asleep* (Halliday and Hasan, 1976, p. 229). In the second sentence, *nevertheless* is a conjunction item that creates a semantic relation between the two sentences. Conjunction and reference are described in more detail in the following two sections. The sections include lists of the subtypes of reference and conjunction items. These lists are relevant for the present study because they demonstrate the variety of items that belong to the two cohesion categories, thus the items that the revisions analyzed may concern. However, the analysis categorizes revisions only into reference and conjunction, not into their subtypes.

2.3.1 Reference

Reference is a type of grammatical cohesion in Halliday and Hasan's (1976) taxonomy. Reference items cannot be interpreted semantically in their own right. Instead, they refer to something else in the discourse for their interpretation. Cohesion through this device lies in the continuity of reference as the same thing enters into the discourse a second time (Halliday and Hasan, 1976, p. 31). Reference items may be exophoric or endophoric. Exophoric reference is situational which means that reference is made to an entity outside the text. The

identity of the entity referred to needs to be interpreted in the situational context at hand. An example of exophoric reference provided by Bloor and Bloor (1995) is the following situation. While walking out at night, a person points to the moon and says to their companion "*Look at that".* In this case, the situation of utterance enables the listener to interpret that *that* refers to the moon (Bloor and Bloor, 1995, p. 95). Thus, exophoric reference contributes to the creation of text by linking the language with the situational context, but it does not contribute to the integration of different parts of a text into one unified whole. Due to this, Halliday and Hasan do not consider exophoric reference to be cohesive.

Endophoric reference, on the other hand, is cohesive because it is textual. This means that items refer to something within the text (Halliday and Hasan, 1976, pp. 32–33). Bloor and Bloor (1995) provide an example that contrasts with the previous one. If in the same situation, the person says, *"Look at the moon"* to which the companion replies, *"I can't see it"*, *it* refers to the previously mentioned moon and a cohesive tie forms between *it* and *the moon* (Bloor and Bloor, 1995, p. 95). Endophoric reference can be anaphoric or cataphoric. The anaphoric type makes reference to the preceding text, meaning that the item that is referred to appears before the reference item. Thus, in the moon example above, reference is anaphoric. The cataphoric type, on the other hand, makes reference to the following text, meaning that the item being referred to comes after the reference item (Halliday and Hasan, 1976, p. 33).

In sum, Halliday and Hasan (1976) consider only endophoric reference to be cohesive. Hence, the analysis of cohesion in the present study concerns only endophoric reference. In terms of grammatical realization, Halliday and Hasan divide reference into three types of items. The following list provides definitions for these types, example items, and example sentences that demonstrates each type of referential tie. The definitions and examples sentences are from Bloor and Bloor (1995, pp. 95–96). In the example sentences, bold font is used to show cohesive ties (i.e., the referent and the reference item).

1. **Personal reference**: Reference dependent on the use of personal pronouns and possessives — *I, me, you, he, him, we, us, one, my, your, his, our, its, one's, mine, yours, hers, ours*

   Example: ***West African dwarf sheep*** *are found roaming about the towns and villages in many southern parts of West Africa in small flocks.* ***They*** *thrive and breed successfully in areas of trypanosomiasis risk.*

2. **Demonstrative reference**: Reference dependent on the use of determiners, adjuncts, and the definite article — *this, these, that, those, here, there, now, then, the*

   Example: *Be careful of **wasps, bees and hornets**. **These** are dangerous pests.*

3. **Comparative reference**: Reference dependent on the use of adjectives and adverbials — *same, identical, identically, similar, similarly, other, different, differently, equally/so/as* + quantifier*, better, more, less, as, equally*, comparatives and superlatives

   Example: *Beecher Stowe gives a moving **account** of the horrors of slavery. Clemens' treatment of the issue in the classic novel Huckleberry Finn is **lighter** but **more subtle**.*

The list above demonstrates the range of items that belong to the category of reference. The following section describes conjunction, the second type of cohesion relevant for the present study.

2.3.2 Conjunction

Conjunction is another cohesion type in the taxonomy of Halliday and Hasan (1976). They define conjunction as a way to create semantic relations between what has gone before in a text and what is to follow (Halliday and Hasan, 1976, pp. 226-227). Cohesion is achieved through the use of conjunctive adjuncts which link together ideas, events, and other phenomena thus demonstrating meaningful relationships between clauses or sections of text (Bloor and Bloor, 1995, p. 98). An example of conjunction is seen in the following sentence pair: *There is a severe shortage of mathematics teachers in Britain and America. **As a consequence of this**, far too many people leave school without any interest in pursuing the study of subjects like engineering that rely on mathematical concepts* (Bloor and Bloor, 1995, pp. 99–100). Here *as a result* is a conjunctive adjunct that expresses a causal relationship between the sentences.

There are four types of relations that conjunctive adjuncts express. The following list provides Halliday and Hasan's (1976, pp. 242–243) definitions for these types and provides example items of each. It should be noted that some items can express more than one type of conjunctive relation depending on context.

1. **Additive**: Items that express additive, comparative, or appositive relations. — *And, or, moreover, by the way, similarly, on the other hand, for instance, thus*

2. **Adversative**: Items that express contrastive, corrective, or dismissive relations.	*Yet, but, however, instead, rather, in any case, anyhow*
3. **Causal**: Items that express causal, conditional, or respective relations.	*So, therefore, in consequence, because of that, in that case, in this respect*
4. **Temporal**: Items that express sequence in time and summary relations.	*Then, next, first, afterwards, subsequently, finally, in short, to sum up*

In sum, the lists of the different types of reference and conjunction illustrate the variety of items that the revisions analyzed in this study concern. The listed types have also been central to analyses of cohesion in previous studies. Section 2.3.3 presents these studies.

2.3.3 Studies on cohesion in L2 writing

Studies into the use of cohesive features by L2 writers have demonstrated certain patterns and difficulties. Liu and Braine (2005) investigated the use of cohesive features by Chinese undergraduates who were enrolled in a basic writing course. The 50 participant students each produced a composition part of an English proficiency test and from the compositions the researchers identified all cohesive devices. Halliday and Hasan's (1976) framework of cohesion was used in the analysis, except that substitution and ellipsis were excluded. The results showed that lexical cohesion was used the most (55.6%), followed by reference (29.8%), then conjunction (14.6%). It should be noted that the researchers considered the use of the definite article *the* separately from other demonstrative reference items. They counted every occurrence of *the* as an instance of reference use, and this deviates from Halliday and Hasan's (1976) theory which considers only endophoric use of *the* to be referential. Liu and Braine found that the most frequent reference device was pronominals, followed by the definite article. Comparatives and demonstratives were used less frequently. Common problems with reference use included inconsistent pronoun use, omission or misuse of the definite article, underuse of pronouns, and overuse of the phrase "more and more". With regard to conjunction, additives were used the most, followed by causals, temporals, and finally adversatives. There was a clear overuse of common conjunction items such as *and, but, or*, and *so*. Another important finding of Liu and Braine's study was that there was a positive correlation between composition scores and the total number of cohesive features used in the compositions. Thus, the results provide evidence for the claim that cohesion is linked to the quality of writing.

However, there is also evidence of cohesion not being linked to writing quality. In Zhang's (2000) study, the number of cohesive ties Chinese undergraduate students majoring in English used in expository essays did not correlate with essay quality. Zhang conducted both a quantitative and qualitative analysis of 107 essays of about 250 words each. Similar to Liu and Braine's (2005) study, analysis of cohesion was based on Halliday and Hasan's (1976) taxonomy with substitution and ellipsis being excluded. The most frequent type of cohesion was found to be lexical (71.7%), followed by conjunction (17.5%) and reference (10.8%). Thus, conjunction items occurred more than reference items which is the opposite of what Liu and Braine (2005) found. With regard to conjunction, Zhang's analysis showed that additives were used most frequently, followed by temporals, causals, and adversatives. A qualitative look at conjunction revealed some common problems in student writing. There was over- and misuse of additives (e.g. *besides, furthermore*), overuse of temporals (e.g. *firstly, finally*), and misuse of adversatives (e.g. *but, however*). With regard to reference, the most frequent ties were pronominals, followed by demonstratives. Comparatives were used the least. In Zhang's categorization, the definite article was considered a demonstrative tie and its number of occurrence was not counted separately from other reference items as in the study of Liu and Braine (2005). Despite that, common problems with reference use in Zhang's study were similar to those found in Liu and Braine's (2005) study and included the lack of explicit referents, inconsistent reference, and over- and misuse of the definite article *the*. Based on the results, Zhang suggests that teachers take enough time to give focused lessons on cohesive features. It is important that students are offered enough examples on the correct usage and semantic features of reference and conjunction items.

Some studies have focused on conjunction use only. In Hamed's (2014) study, Halliday and Hasan's (1976) theory of cohesion was used as theoretical background to investigate Libyan undergraduate students' use of conjunction in argumentative writing. Hamed sought to find out the extent to which conjunction was used appropriately or inappropriately, and whether some conjunction items caused more difficulties than others. Each of the 16 participants wrote two short essays after which conjunction items were manually identified and classified in terms of their semantic functions. After this, each instance of conjunction use was classified as either appropriate or inappropriate based on whether the conjunction was used for the correct semantic function. The results showed that the use of temporals was mostly appropriate. Adversatives were used inappropriately the most followed by additives and causals. Out of the adversatives, the use of *on the*

other hand, but, and *in fact* caused difficulties the most. Hamed's results thus demonstrate that learners of English have difficulties with using conjunction in writing. In the study's context, difficulties apparent in the participants' conjunction use were hypothesized to result from negative transfer from the L1 (Arabic), overgeneralization, and the presentation of such conjunction lists in EFL textbooks which do not show subtle differences in the semantic functions of the items.

Halliday and Hasan's concept of conjunction has also been applied to the study of Finnish researchers' academic writing in English. Ventola and Mauranen (1990) studied the use of conjunction items, or connectors as they called it, in 31 articles submitted by Finnish researchers to a university language revision service. Although the study is 30 years old and results might be different today, the study is a useful demonstration of general patterns in the use of conjunction items by Finnish L2 writers. Ventola and Mauranen analyzed connectors in the papers to identify difficulties Finnish writers had with them and compared their usage of connectors to that of native writers. In addition, they looked at the types of corrections revisers made regarding connectors. The analysis showed that Finnish writers used connectors relatively infrequently and less than their native counterparts. Most writers seemed to have certain "favorite" connectors that they overused. For example, to create adversative conjunction, *however* was used almost exclusively. Thus, the range of connectors used was often very narrow. Ventola and Mauranen's analysis of the revisers' corrections showed that most revisions were suggestions of alternative connectors or revisions of the syntactic positioning of connectors. For example, Finnish writers often placed *also* in a position in the sentence that is uncharacteristic of native speakers' writing. Despite the relative infrequency of connectors, revisors rarely suggested them to be added. As a result, problems with cohesion as judged by native speakers existed in the texts even after the revision process.

Ventola and Mauranen's (1990) study also looked at Finnish researchers' use of reference. Some obvious problems were observed. Namely, Finnish writers had difficulty with keeping track of participants in reference chains. They had trouble with expressing reference and often introduced already known, or presumed, participants as if they were previously unknown. Incorrect article use was common and added to the problem with participant reference chains. Another clear problem was seen in constructing thematic patterns. Finnish writers often placed text participants of minor relevance in head positions in thematic nominal groups. Their use of theme-rheme patterns was not effective in organizing information. As with connectors, problems with referential cohesion seemed to remain even after native revisers'

checking of the texts which indicated that revisors mainly looked at the texts sentence by sentence.

It should be noted that Halliday and Hasan's (1976) original theory on cohesion claims that cohesion is a relation between sentences. However, many studies on cohesion in L2 writing (e.g. Liu and Braine, 2005; Ventola and Mauranen, 1990) have analyzed both intersentential and intrasentential cohesion despite using Halliday and Hasan's (1976) theory as their theoretical framework. Intersentential cohesion refers to relations between sentences, while intrasentential refers to relations between elements within the same sentence.

To sum up, this chapter has provided an overview of the theory on writing conferences and cohesion which are the two most central concepts for this thesis. In addition, previous studies on conferencing and cohesion in L2 writing have been presented. The above studies on cohesion demonstrate that a common focus among cohesion studies within L2 writing has been characterizing how L2 writers use cohesive features. However, how cohesion is revised has received less attention. I am not aware of any studies in which cohesion is revised in a writing conference setting. The next chapter explains in detail how these two concepts are combined in this thesis.

3 Data and method

This chapter introduces the methodology of the study. 3.1 describes the writing conference data used in this study while 3.2 explains the method of analysis used to answer the research questions.

3.1 Data

The data for this study was collected as part of a writing clinic service which is offered to students and faculty members at a large Finnish multidisciplinary university. According to the clinic's website, the service is meant for non-native writers of English, and its objective is to assist these writers in the process of producing an academic text in English and at the same time help them improve as writers. The service allows students and faculty members to book individual tutoring sessions with a writing teacher. These sessions are offered free of charge for up to eight hours per academic year per client. During a session, the teacher helps the client with the planning, organization, writing, or revision of the client's paper, whether it be a thesis, dissertation, or journal article. Thus, the clinic is not a proof-reading or editing service, but rather it has a pedagogical mission to make the client a better writer through the process of collaboratively developing their paper. For this reason, the sessions are exemplary writing conference interactions. A noteworthy feature of the interactions used as data in this study is the fact that the teacher is a language professional, but when it comes to the content of the text, the student is more knowledgeable. The teacher is familiar with the conventions of engineering writing, but not with the specific topics of the theses.

The data included in this study consists of six writing clinic sessions. The participants in each session are a native English-speaking writing teacher and an engineering master's student. The teacher is the same in all of the sessions whereas the student participant is different in each session. In the analysis chapter, the students are referred to as Student 1, Student 2, etc. All the students are non-native speakers of English. They study in master's degree programs that are taught in English, so they are required to write their master's theses in English. At the time of booking the sessions, all the students were in the process of writing their thesis and sought help for revising their drafts. Some of the students were taking a course on academic writing and participation in the sessions was part of the course requirements. Others were not currently enrolled in the course. Regardless of course participation, all the students had more than one session with the teacher. Thus, the

sessions analyzed in this study were in some cases the first time the participants met, but it was in no case the only time. Each session was typically devoted to discussing one chapter of the thesis. During the sessions included in this study, the teacher and student discussed the introduction chapter of the thesis. The introduction chapter fit the purpose of the present study, because it is a relatively short unit of text, thus could be analyzed in its entirety. The sessions varied somewhat in length. The shortest session was one hour, 23 minutes, and 57 seconds, while the longest session was two hours and 12 minutes. Despite the variation, the sessions were considered comparable because the length of the introduction chapter being revised was very similar in all of the sessions (around two pages).

Normally, writing clinic sessions are held at the university so that the teacher and student meet in person. However, the sessions used as data in this study were held when the university was under lockdown due to the COVID-19 pandemic, so the sessions were held remotely via Zoom. Although interaction between the teacher and student participants may be somewhat different on a video call compared to in person, it was not considered to make a significant difference for the purpose of studying cohesion related revisions. Also, in the review of previous literature on writing conferences, no study was encountered where sessions were held via video call, so the data in the present study is unique in this respect.

The uniqueness of the data also applies to the format that it is in. The teacher participant of the writing clinic sessions collected the data by recording their computer screen for the duration of each session. It should be noted that the primary purpose for the teacher to collect these screen recordings was not research, but they are a normal component of the writing clinic. The teacher screen records all sessions and sends each video to the student participant after the session so that the student can review what was discussed about the text and the revisions. The video can thus be of help for the student when they go through the text and decide on whether to implement the marked revisions. Furthermore, the video can be thought to serve as learning material for the student, as they can use it to review everything the teacher taught during the session as many times as needed.

The screen recording videos show everything that happens on the teacher's screen along with the audio of the teacher-student interaction. The revision process in the sessions works so that the teacher has read the student's draft beforehand and marked the parts of

the text that need to be revised in red. Thus, the teacher does not make any revisions beforehand, but simply marks revision needs. During the session, the teacher has the file open in Microsoft Word and has shared the screen with the student. They then start going through the thesis chapter and revising it with the teacher leading the process. All the changes made to the thesis are marked by the teacher using the "track changes" function in Word which means that nothing of the original student-written text is deleted but rather revisions are added "on top" of the existing text. After the session, the student has to go through the revisions and either accept them or reject them. Thus, even though it is the teacher who makes all the revisions to the thesis during the session, these revisions are not final, and it is the student who ultimately makes decisions about whether to execute the revisions.

In addition to the screen recordings, the data includes transcripts of the sessions and teaching materials used at the writing clinic. The audio data was transcribed by a research assistant of the LaRa project (described below). Transcription conventions are listed in the Appendix. The teaching materials include a website, where there is a collection of information and instructions on various topics related to academic writing, as well as several handouts which cover some of the most important issues in terms of revision such as article usage and linking words. The website serves as a reference material that students are encouraged to use for help in all their writing, while the handouts are more of a teaching tool used by the teacher during the conference sessions. I do not analyze the content of these materials in themselves, but I take them into account in answering the research question on how revisions are made. In other words, I am interested in finding out whether the materials are referred to or pulled out when revising issues of cohesion.

This study is part of a research project called Language Regulation in Academia (LaRA). The project is situated at the Department of Languages at the University of Helsinki. The project's GDPR notice is reproduced in the Appendix along with the consent form for participants. As for ethical considerations, I do not identify the university where the writing clinic is held or share any personal information about the participants. Examples of revisions are from the students' theses, but the text excerpts are anonymized so that the specific topic or the student cannot be identified. Thus, key content words are replaced with generalizations of the words or with a description of the word's function. After conducting the study, I deleted all the data that I had had access to.

3.2 Method

The study takes a qualitative approach to analyzing writing conference discourse. The analysis focuses on revisions that concern cohesion. More specifically, the analysis includes only those revisions that are identified as having to do with cohesion based on the taxonomy of Halliday and Hasan (1976). Section 3.2.1 describes the concept of revision and how it functions as a process in the context of the present study. Section 3.2.2 explains the steps of the analysis process in detail.

3.2.1 Revision process in the context of the study

According to Williams (2004), revision is a process that is broader than editing for errors. Revision is goal-oriented and has both internal and external manifestations. Internal manifestations refer to the writer reconsidering what is written and imagining possible changes, whereas external manifestations refer to the changes that are actually made to the text. Revision can happen at any stage in the writing process (Williams, 2004, p. 174). In the context of the present study, revisions of interest are those concerning two types of cohesion – reference and conjunction. The data allows me to determine the external manifestations of the revision process as the teacher makes changes to a student's thesis displayed on the screen. In addition, the data allows me to get some sense of the internal manifestations of the revision process through the spontaneous think-aloud protocols of the participants. Revisions are rarely straightforward, but rather are preceded by one or both participants voicing possible revision options which makes some of their thinking explicit.

Revision can also be defined as a problem-oriented process. The writer must first detect a problem in the text, then diagnose how it could be improved, decide on the best option for revising it, and finally execute the revision. The stages in the process can be initiated and performed by the writer or by someone else, for example a teacher or peer (Williams, 2004, pp. 174-175). In the present study, the screen recording format of the data allows the application of the above-mentioned stages to the analysis of revisions. However, the term "problem" is avoided in referring to revision needs, as it implies that there is something wrong in the text which is not necessarily the case. Nonetheless, the detection of revision needs has been done by the teacher ahead of the session as the sessions start with the document having been marked by the teacher for things to be revised. In addition, some revision needs are detected during the sessions. The diagnosis stage often occurs through the think-aloud process mentioned above and decisions on how to revise are achieved through

negotiation between the participants. Revisions are marked by the teacher because they control the recorded computer. However, as mentioned earlier, this execution is not final, since none of the original text written by the student is deleted during the session. I do not have access to the final stage of revision when the student goes through the revisions and either accepts or rejects them, so I am not be able to conclude anything about the ultimate result of the revision process.

3.2.2 Analysis of cohesion revisions

The analysis of cohesion revisions in this study is based on the theoretical framework of Halliday and Hasan (1976). To limit the scope of the analysis, a decision was made to leave out lexical cohesion, and thus focus on grammatical cohesion with conjunction considered to be part of it. A further exclusion that arose out of an initial round of data analysis was to leave out substitution and ellipsis. These cohesion types appeared to be very rare in the data, so revisions concerning them would have been unlikely. This exemplifies the claim by Halliday and Matthiessen (2013) that substitution and ellipsis are more characteristically found in dialogues, particularly "question + answer adjacency pairs" (Halliday and Matthiessen, 2013, p. 606). Moreover, in previous studies substitution and ellipsis have been excluded on the same grounds (e.g. Liu and Braine, 2005; Zhang, 2000). Thus, cohesion analysis in this study includes reference and conjunction which were defined and explained in chapter 2.

The data was analyzed using the Atlas.ti qualitative data analysis software. First, revisions that had to do with either reference or conjunction were identified. Thus, whenever a change in a linguistic item that based on the theory of Halliday and Hasan (1976) is part of reference or conjunction was marked in the text, the revision was coded. As a result of this, the extent to which each type of cohesion revision occurred in the data could be determined and this provided an answer to the first research question. In other words, the coding showed how many revisions concerning reference and conjunction were made in each session, as well as which of the cohesion types was revised more frequently. Conclusions about the frequency of conjunction and reference revisions in each session were made relative to the other sessions included in the data.

A few notes about identifying revisions need to be made here. First, a revision was coded only if it was actually marked. Thus, in cases where the teacher mentioned a possible revision, but did not go on to mark it in the text, the revision was not coded. Second, a revision was coded

even if the revised form came to be changed or deleted during the course of the session because these instances were considered to be a relevant part of the revision process. Third, revisions were categorized into reference and conjunction based on the original version of the linguistic item that was the target of revision. Thus, if the original version included a linguistic item that was, for example, referential, but the revised version no longer included a referential item but a conjunctive item, the revision was still categorized as a reference revision.

Finally, a note about intersentential versus intrasentential cohesive ties needs to be made here. As mentioned in chapter 2, some studies have analyzed both types of cohesive ties despite Halliday and Hasan (1976) considering only intersential ties to be cohesive. For the purposes of the present study, it was considered appropriate to follow previous studies' inclusion of intrasentential ties for reference. This is because revisions that concerned reference items appeared to concern similar issues regardless of whether items were used intersententially or intrasententially. Conversely, the distinction between inter- and intrasentential ties was perceived important for the concept of conjunction, so the analysis of conjunction revisions is in line with Halliday and Hasan (1976) and includes only intersentential ties. This helps to separate conjunction items, which function grammatically as conjunctive adjuncts, from conjunctions, which have the function of linking together parts of a sentence (Bloor and Bloor, 1995 p. 99), thus are used intrasententially.

The next step in the analysis was a data-led qualitative analysis of the previously identified revisions. To answer the second research question, a categorization for the identified revisions was needed. Based on an initial round of analysis, there appeared to be four types of revisions. These types closely matched those included in the taxonomy of Flowerdew and Wang (2016), so their taxonomy was adapted for the purposes of the present analysis. The names of the revision types were taken from Flowerdew and Wang (2016), while the definitions were reformulated by me to fit the exact needs of the present analysis. The following list describes the four revision types along with examples of each type from the actual data. The explanations provided for the revisions are my summaries of how the teacher justified the revisions during the conference interaction.

1. Substitution: A linguistic item is replaced by another linguistic item that the revisor considers more appropriate.

Original version:	*The validity of the [modifier] method is verified by comparing results to <u>results</u> obtained from full [modifier + adjective] analysis of the same structure.*
Revised version:	*The validity of the [modifier] method is verified by comparing results to <u>those</u> obtained from full [modifier + adjective] analysis of the same structure.*
Explanation:	The demonstrative reference item *those* substitutes the item *results*.

2. Addition: A linguistic item is added to the text.

Original version:	*If the [adjective] load is not disconnected,…*
Revised version:	*<u>Moreover</u>, if the [adjective] load is not disconnected,…*
Explanation:	The additive conjunction item *moreover* is added to the beginning of the sentence.

3. Deletion: A linguistic item is removed from the text without anything being added.

Original version:	*…and the [modifier] result becomes some [adjective] combination of <u>the</u> [modifier] and [modifier] branch impedances.*
Revised version:	*…and the [modifier] result becomes some [adjective] combination of [modifier] and [modifier] branch impedances.*
Explanation:	The definite article *the* is deleted, because the noun phrase does not have an antecedent.

4. Rearrangement: A sentence-level revision that follows from a change in a linguistic item having to do with cohesion.

Original version:	*There are several factors which can affect <u>this value</u>.*
Revised version:	*These readings can be affected by several factors.*
Explanation:	In the original version, it was unclear what the referent of *this value* was. *This value* actually referred to *readings* which was mentioned in the preceding sentence. Because *readings* was topical in the current sentence, it was moved to the beginning of the sentence.

The final step in the analysis was to answer the third research question regarding how the revisions were made. This was done by qualitatively analyzing the portions of the

interaction that concerned making the identified cohesion revisions. Because the focus in this study is on writing conferences as a teaching method, this part of the analysis aimed to characterize the teacher's behavior in managing the revision process. Furthermore, it was natural to focus on the teacher's role in the interaction because in all the sessions the teacher appeared to be the participant who led the revision process and initiated the majority of revisions. Thus, it was of interest to see how the teacher introduced revisions, whether and how the teacher encouraged student participation, how the teacher justified revisions, and to what extent the teacher used teaching materials in that process. The goal of the analysis was to find out whether there were any characteristic patterns in the teacher's behavior that could be connected to the pedagogical aims of writing conferencing.

4 Analysis

This chapter presents the results of the analysis. The chapter is structured according to the three research questions that guided the analysis. Thus, section 4.1 answers the first research question by showing the extent to which reference and conjunction were revised in the sessions. Section 4.2 answers the second research question by demonstrating the distribution of revision types in the data. Finally, section 4.3 answers the third research question on how revisions were made by describing typical characteristics of the revision process focusing on the teacher's role.

4.1 Reference and conjunction revisions

Table 1 below shows the number of reference and conjunction revisions in each of the six sessions as well as the total number of revisions.

	Reference	**Conjunction**	**Total**
Student 1	9	4	13
Student 2	4	8	12
Student 3	6	3	9
Student 4	11	3	14
Student 5	12	4	16
Student 6	10	3	13
Total	**52**	**25**	**77**

Table 1. Number of reference and conjunction revisions.

As Table 1 shows, a total of 77 revisions was identified. Of these, 52 concerned reference and 25 concerned conjunction. Thus, the number of reference revisions was more than twice the number of conjunction revisions. In terms of the number of revisions per session, there was some variation. At the extreme ends, Student 3's session contained only nine revisions whereas Student 5's session had 16 revisions. While Student 5's session was the longest (2h 12min), Student 3's session was actually the third longest (1h 38min), so the number of revisions per session is not a result of simply session length. The distribution of reference and conjunction revisions also varied between sessions. There is a general pattern of the number of reference revisions being at least twice the number of conjunction revisions. In Student 4, 5, and 6's sessions, the number of reference revisions is actually at least three times the

number of conjunction revisions. Student 2's session, however, breaks the pattern and shows the opposite relationship between the revisions. Namely, the number of reference revisions is half that of conjunction revisions. Possible reasons for differences between sessions are hypothesized in the discussion chapter.

4.2 Types of revisions

The revisions were categorized into four types. Table 2 below shows the distribution of the revisions into these types.

	Substitution	**Addition**	**Deletion**	**Rearrangement**	**Total**
Student 1	11	0	0	2	13
Student 2	4	3	0	5	12
Student 3	4	2	1	2	9
Student 4	7	3	2	2	14
Student 5	8	6	0	2	16
Student 6	5	2	3	3	13
Total	39	16	6	16	77

Table 2. Number of revisions of each type

As Table 2 shows, there were significant differences in how many times each type of revision occurred. The most frequent revision type was substitution. Essentially, a half of all revisions (39 out of 77) were substitutions. Additions and rearrangements, in turn, both occurred 16 times. Deletions were very rare with only six revisions.

In terms of differences between students, substitutions were made the most in all of the sessions except that of Student 2 for whom the number of rearrangements exceeded the number of substitutions by one revision. Thus, Student 2's session stands out not only because it is the only one where conjunction was revised more than reference but also because of the number of rearrangements. Five rearrangements is a relatively high number considering that Student 1, 3, 4, and 5's sessions include only two such revisions and Student 6's session three of them.

Only half of the sessions included revisions of all types, and these were the sessions of Students 3, 4, and 6. Student 1's session included only two types of revisions, substitutions and rearrangements. Furthermore, 11 of the 13 revisions in that session were substitutions, so the proportion of substitutions compared to other revision types is considerably higher than in any other session. Students 2 and 5's sessions included three types of revisions; substitutions, rearrangements, and additions. Thus, substitutions and rearrangements occurred in all the sessions. Additions occurred in all but student 1's session while deletions occurred in only three sessions.

It is also relevant to compare the distribution of revision types for reference and conjunction revisions. Table 3 shows the revision types for the two cohesion categories ordered according to number of occurrences.

	Reference
Substitution	29 (55.8%)
Addition	10 (19.2%)
Rearrangement	8 (15.4%)
Deletion	5 (9.6%)
Total	**52**

	Conjunction
Substitution	10 (40.0%)
Rearrangement	8 (32.0%)
Addition	6 (24.0%)
Deletion	1 (4.0%)
Total	**25**

Table 3. Distribution of revision types for reference and conjunction revisions.

It can be noted that there is one clear difference in the order of revision types. Namely, the second most frequent revision type for reference revisions is addition while for conjunction it is rearrangement. A look at the percentages shows further differences. Over half (55.8%) of reference revisions are substitutions, but they make up only 40.0% of the conjunction revisions. Conjunction revisions are thus more equally distributed into the different revision types. The proportion of both rearrangement (32.0%) and addition (24.0%) is higher than the proportion of these revision types for reference revisions (15.4% and 19.2% respectively). In contrast, the proportion of deletion is very low for both types of cohesion but slightly higher for reference revisions.

Most of the revisions fit neatly into one of the revision type categories. However, a few of the revisions categorized as belonging to other types could arguably be perceived as deletions. One of these cases was a revision from Student 2's session where the teacher proposed that

conjunction items *firstly*, *secondly*, and *thirdly* be used without the *ly*-suffix, thus they were revised into *first*, *second*, and *third*. The teacher's reasoning for the revision was that the *ly*-ending forms are very old-fashioned. Since the revision involved deleting the suffixes without anything being added, the revision could have been categorized as a deletion. However, I considered it a substitution on the grounds that *first* and *firstly*, for example, are two different conjunction items. They are used for the same purpose, i.e. to express a temporal relation of sequence, so as conjunction items they are more like alternate words than different forms of one word. The revision thus involved conjunction items being replaced with other more suitable conjunction items rather than deleting suffixes.

Below is another example of a revision that could have been categorized as a deletion but which I categorized as a rearrangement. Section 4.3 explains the method for presenting examples in detail. What is relevant to mention here is that the example below shows Student 4's sentence as it appeared in the screen recording after it had been revised. The items in red were marked to be removed from the sentence and the items in blue were marked to be added.

Example #1: Student 4, reference – rearrangement

> Chapter 3 presents ~~my observations of~~ the [[acronym + modifier]] activities observed in this work. [1]

In this example, *my observations of* is deleted and replaced by *observed in this work*. The teacher's justification for the revision was that it is conventional in engineering writing to avoid the use of personal pronouns, and the revised version makes the sentence sound more objective (see transcript below, example #7). Thus, the reason for making the revision was eliminating *my*. *Observed in this work* came to be added simply as a consequence of deleting *my*. Due to these reasons, the revision could have been categorized as a deletion. However, the definition I formulated for deletion states that a revision is categorized as such only if nothing is added to the text to replace the deleted portion. Furthermore, my definition for rearrangement states that such revision entails a change in the structure of the sentence. This holds true for the example sentence, as the deletion of *my observations of* requires the addition of a passive verb phrase to the end of the sentence. The function of *observations* changes from a noun to a verb and the item becomes part of the passive verb phrase.

[1] Reference in this sentence was considered endophoric even though the identity of *my* was not retrievable from the text in the introduction chapter. As the name of the author of the thesis is written on the cover page of the thesis and the introduction chapter is preceded by a preface that is written by the student author in first-person, the identity of *my* can be retrieved from elsewhere in the text, thus reference is not exophoric (i.e., situational).

4.3 How revisions were made

This section answers the third research question by describing how cohesion was revised in the sessions. The section is divided into subsections which each present one characteristic of the revision process in terms of the teacher's role. Section 4.3.1 describes how the teacher initiated revisions. Section 4.3.2 demonstrates how the teacher's directives functioned. Section 4.3.3 addresses revisions in which the teacher did not involve the student, and finally section 4.3.4 describes the use of teaching materials in the sessions. In order to demonstrate how these characteristics manifested in the data, examples from the sessions are provided. The titles for the examples include the following information: the student whose session the example is from, the feature of cohesion the revision concerns, and the type of revision made. Each example is supplemented with the relevant portion of the transcript showing the interaction between the teacher and student participants. In addition, some descriptions of what happened on the teacher's screen were added to the transcripts in places where it was relevant for the analysis of the revision to know not only what the teacher was saying but also what they were doing to the file. In the transcripts, the teacher's turns are marked with "T" and the student's turns with "S". The analyses of the examples also refer to the participants as T and S.

In addition, most examples are supplemented with a reproduced version of the sentence or portion of the student's text that was the target of revision so as to better demonstrate the revisions made. These text excerpts are written as they appeared in the screen recordings at the end of the discussion of the particular revision. That is, they show what the text looked like after the revisions discussed in the session had been marked by the teacher. Examples of student texts are anonymized by replacing key content words with more general words, descriptions of word class or the like. All anonymized words are inside double brackets. Also, a note about the color scheme in the examples needs to be made here. As mentioned in chapter 3, the teacher marked the parts of the students' texts that needed revision with red font prior to the sessions. During the sessions, the teacher added a strikethrough on top of any parts of the texts that were to be removed. These parts were usually those the teacher had already marked with red font before the session but in some cases not, so the color of the font was changed as the revision was made. In contrast, the teacher used blue font every time something new was added to the text, so essentially all revised portions of the text are in blue. These blue parts were all added during the sessions. Thus, the teacher did not add any revised forms prior to discussing the text with the student.

4.3.1 Initiation of revisions

As mentioned, the teacher had marked most of the things to be revised ahead of the session. However, sometimes the need arose to revise something that the teacher had not marked in red for revision beforehand. This could happen as a result of making a revision to a preceding portion of the text which affected the portion of the text at hand, or simply the teacher missing a revision need in their prior reading of the text. These instances were relatively infrequent though. Irrespective of whether a revision need was marked beforehand, the teacher was the one who initiated revisions in the sessions. Thus, when a text was discussed during a session, the teacher had to make the student aware of revision needs in some explicit way. In other words, the teacher had to give an indication as to why something was marked with red or point out that a portion of the text could be improved. A typical characteristic of this initiation stage of revisions was that the teacher asked a question, and this occurred particularly in substitutions that concerned reference. The teacher's questions can be divided into two types which I refer to as pedagogical questions and information-seeking questions. The difference between these two types of questions is whether the teacher knows the answer to the question. Pedagogical questions are ones for which the teacher knew the answer, or at least had an answer in mind that they seemed to find most appropriate. Thus, the purpose for using this kind of questions appeared to be related to the aim of teaching students. The following example demonstrates how the teacher used this question type.

Example #2: Student 1, reference – substitution

Revised version:

> The validity of the developed ~~simplified~~ method ~~for analysis of [[manipulated material]] with [[adjective]] behavior~~ is verified by comparing results to those ~~results optioned~~ obtained from full [[modifier + adjective]] analysis of the same structure.

Transcript excerpt:

> T: w- ho- what word could you use to refer to results
>
> S: mmm [3sec pause] mhmm
>
> T: okay if it's singular it's that
>
> S: myeah
>
> T: yeah , eh so it would be like [Finnish:]*tuo*
>
> S: yeah
>
> T: and if it's [Finnish:]*nuo* , then it would be those

S: tha- yeah

T: and this is what we call a proform and it's used a lot in comparisons too so we would get rid of , the results and just put those yeah

S: yeah

In this example, *results* is replaced by the demonstrative reference item *those*. T starts the revision by asking S to think of a word that could be used to refer to *results*. S has trouble answering the question, so T attempts to help S by providing the singular form of the target word. T then uses Finnish and gives the translation of the singular form *that* (*tuo*) after which T gives the translation of the target word *those* (*nuo*). Despite T's help, S is not able to come up with the answer, so T ends up giving the answer themselves. T also provides a short explanation for the usage of the word *those*. This is an example of a pedagogical question because T clearly has one correct answer in mind when posing the question. T provides hints and tries to help S come up with the correct word themselves, so it can be interpreted that the purpose for asking the question is to facilitate S's learning.

The next example, which is also from the session with Student 1, shows another instance of T initiating a revision with a pedagogical question.

Example #3: Student 1, reference – substitution

Revised version:

Several methods have been developed to reduce the size of the [[adjective]] response problem by [[-ing verb]] the properties of the [[modifier]] structure. Many of ~~them~~ these have been developed to…

Transcript excerpt:

T: uh many of remember I said they their them it you don't use [os 1sec](what do you think we)..

S: yeah

T: ..(would) use here instead

S: many of , which have been developed I don't know

T: oh no because it would have to be part of the sentence actually this and these is used to rev- refer backward and..

S: yeah many of yeah many of , these

T: these

Here, T begins by making reference to a convention of engineering writing T has taught to S earlier, presumably in the academic writing course that S has participated in. In the six sessions analyzed, T mentioned numerous times that the use of personal pronouns is avoided in engineering writing. This is one of those instances, as T reminds S of this convention and asks what word could be used instead. S appears to remember hearing the convention before because they respond with *yeah*. Still, S does not come up with the correct answer, so T helps S by giving the singular and plural form of the target reference item, and of these S chooses the correct form which is *these*. Thus, T has one correct answer in mind when asking the question. T's question serves to draw a connection between what T has taught earlier and what that knowledge means in practice.

The second question category consisted of information-seeking questions. These were questions that the teacher did not have an answer to, and thus needed information from the student in order to be able to provide a suitable revision. These questions occurred significantly more often than pedagogical questions. Like pedagogical questions, information-seeking questions were especially common in initiating substitution revisions that concerned reference, and a pervasive issue that the questions had to do with was clarifying the referent of a reference item. The example below shows one case of the teacher using an information-seeking question for that particular purpose.

Example #4: Student 4, reference – substitution

Revised version:

> Usage of pervasive [[process]] and [[process]] differentiates their [[modifier]] patterns from [[adjective]] purpose protocols, ~~besides~~ as well as makes them [[adjective]] in the ~~[[person]]~~ eyes of a [[person]]. ~~That~~ This significantly facilitates [[modifier]] analysis…

Transcript excerpt:

> T: that significantly facilitates [[modifier]] analysis what does that refer to
>
> S: usage of pervasive [[process]] and [[process]]
>
> T: okay yeah and so it's the it's m- it's m- the more or less the whole sentence that is not used like this here yeah
>
> S: yeah
>
> T: it would be this , is always referring to the sentence before [os 1sec](and)..
>
> S: yeah

T: ..w- what it says there , this significantly facilitates [[modifier]] analysis

The revision in this example is a matter of determining which reference item best fits the final sentence in the extract. S has used the word *that* incorrectly, so it is replaced with *this*. T initiates the revision by asking what *that* refers to. T has marked *that* with red because it is unclear what *that* refers to. When asking the question, however, T does not know the answer but actually needs to hear S's explanation in order to be able to provide a suitable revision. Thus, T's question seeks information from S. Based on S's response, T diagnoses the problem in the sentence. Namely, that *that* does not work as a reference item for the purpose that S has used it for. T provides the correct item *this* and a short explanation for why it is an appropriate revision.

The above example of an information-seeking question concerned word choice and the revision made was fairly straight-forward. The next example shows a more complex example of the teacher asking information-seeking questions to clarify meaning. This time the revision concerns conjunction.

Example #5: Student 2, conjunction – rearrangement

Revised version:

> …can be affected by several factors including [[-ing verb]] and [[activity]] immediately before measurement. ~~On the other hand~~, as well as any [[activity]] and [[-ing verb]] during the measurement…

Transcript excerpt:

> T: on the other hand so is this the opposite ah no this is
>
> S: it was like comparing like just before the [[activity]] during I mean just before the measurement during the measurement , [os 2sec](--)
>
> T: aha , but I think i- it's both before and yeah factors including [[-ing verb]] and blah before [4sec pause, types *before*] uh [2sec pause, types *taking*] taking measurements I guess im- it was immediately wasn't it that you had that makes sense [types *immediately*]
>
> S: yeah
>
> T: immediately before taking , measurements (maybe) (-) before measurement ah we could say before measurement also [6sec pause, corrects earlier marking and types *before measurement*] or it could also be measurements uuh including w- err err [[-ing verb]] and [[-ing verb]] before and we could now use as well as cos this is just a continuation [types *as well as*]

S: yeah

T: and the reas- why am I using as well as here , any idea

S: well it's the same as and [laughs]

T: yeah because you have an and here already

S: yeah

T: so w- we can't really continue that way

During the excerpt shown here, *immediately before measurement* is added to the end of the first sentence, and the conjunction item *on the other hand* is replaced by *as well as* so that the two sentences come to be combined. The revision starts by T asking what the purpose for using *on the other hand* is. S explains to which T responds that S's use of *on the other hand* does not make sense as there is no contrastive relation between *before measurement* and *during the measurement*. T asks another information-seeking question in which T refers to the original version of a portion of the text that they just revised. Namely, T confirms that what they deleted earlier (*immediately before measurement)* was actually an important piece of information. S's affirmative response causes T to add the clause to the text. T then proposes that the sentences be combined with *as well as* because there is an additive relation between the ideas of the two sentences. Furthermore, T asks a pedagogical question about the use of *as well as* in the sentence. S's answer to the question is relevant but not exactly what T is expecting, so T provides the answer they have in mind, i.e. that *and* should not be used again in such close proximity to the other *and*. Thus, this example shows how T uses information-seeking questions to negotiate meaning, as well as how T integrates a pedagogical question into the justification of the revision.

In sum, asking questions to bring students' attention to revision needs was especially pervasive among reference revisions. However, there was another characteristic initiation pattern, and that pattern occurred proportionately more in conjunction than reference revisions. I refer to this pattern as pointing out revision needs. Essentially, these revisions began by the teacher simply stating that something was off in a sentence. In other words, the teacher made the student aware of a portion in the text that did not make sense to the teacher. Oftentimes, these statements were followed by the teacher providing a revision straight away. The examples below demonstrate this pattern first in the case of conjunction and then reference.

Example #6: Student 3, conjunction – addition

Revised version:

> However, in practice the [[object]] is often connected to a [[adjective]] system. Uncoupling the [[object]] from the [[adjective]] load is [[adjective]] and in many cases too [[adjective]]. Moreover, if the [[adjective]] load is not…

Transcript excerpt:

> T: oh okay so you've started off with your problem here , and then uncoupling , yeah and then you've got if and I think this is something slightly separate , I think that this could've been moreover which is a negative way of saying in addition
>
> S: yeah
>
> T: moreover , well it's that's that makes the connection

In this example, *moreover* is added to the beginning of the last sentence. This is an example of a revision which had not been marked by T prior to the session. Thus, there is nothing in the text that signals a revision need to S before T actually initiates the revision by pointing out that there is a lack of connectivity between the sentence and the two preceding sentences. After making S aware of this problem, T proposes the addition of the conjunction item *moreover* because T thinks it would make the connection clearer. T also justifies the use of *moreover* by explaining that it is used to link together sentences that have negative connotations. This contrasting use of *in addition* and *moreover* is a convention of engineering writing that T mentions in several of the sessions, and the convention is also demonstrated in one of the teaching material handouts.

The next example shows a similar instance of T giving an explanation for a revision right away. The example was also presented in section 4.2 to provide a justification for why the revision was categorized as a rearrangement.

Example #7: Student 4, reference – rearrangement

Revised version:

> Chapter 3 presents ~~my observations of~~ the [[acronym + modifier]] activities observed in this work.

Transcript excerpt:

> T: chapter 3 presents my observations the only reason I put this in red is cos , um you generally try not to use I you my
>
> S: mhm

> T: um eh in a in a master's thesis , presents um , uuh observ- eh could it be th- the [[acronym + modifier]] ac- activities , which were observed in this thesis
>
> [2min 2sec discussion on verb phrase omitted here]
>
> T: yeah I know it's a little bit , a little bit [laughs] more than just my but it sounds it sounds uh a little bit less it sounds more objective basically

In this example, T starts the revision by explaining why *my* is in red. As mentioned earlier, T instructs students not to use personal reference items in their texts on the grounds that it is a convention in engineering writing. After this justification, T moves on to providing a revision which requires the sentence structure to be changed. During the part of the discussion not included here, T teaches S how to construct the type of shortened passive verb structure (*which were observed* shortened to *observed*) needed for the revision. The last line of the excerpt is from the end of the discussion on the revision, and shows T giving another reason for why the revision improves the text. This example, along with the previous one, demonstrates how T initiated revisions by directly explaining the revision need. Both examples also show T providing a revision in the form of a directive. The next section analyzes how directives functioned in the teacher's revisions.

4.3.2 Directives in the teacher's revisions

In a majority of the revisions, it was the teacher who came up with the revision. However, there was variation in the strength of the teacher's directives. Namely, strong directives occurred in revisions that the teacher perceived to be obligatory and weaker directives in revisions that the teacher perceived to be optional or one of many possible solutions. Revisions that were initiated through pointing out a revision need were often characterized by strong directives. Revisions that were initiated through questions varied more in the strength of the teacher's directives. In terms of reference versus conjunction and revision types, there were no significant differences in what strength of directive was more characteristic of a certain cohesion or revision type.

Regardless of the strength of the directive and revision type, the students appeared to accept or agree with all the teacher's revisions. In the analyzed revisions, there was little resistance on the part of the students to the teacher's revisions. The following examples demonstrate how the strength of directives varied in the teacher's revisions.

Example #8: Student 4, reference – substitution

Revised version:

> …many efforts have been devoted to investigating ~~the [[name of a system]]~~ [[acronym for the name]] operations…

Transcript excerpt:

> T: and probably you've already said that it's [[acronym]] so you shouldn't use the name again you might want to bring it in again uuh the full name in your conclusion chapter
>
> S: okay yeah
>
> T: (-) [[acronym]] , operations , it means the operations of [[acronym]] yeah
>
> S: mhm

Here T's revision concerns the name of a system central to the topic of the thesis. The name is replaced by the acronym that S introduced for the name in the previous paragraph. Despite the use of the modal verb, T's first directive (*you shouldn't use*) appears fairly strong, and the fact that T starts by justifying the revision gives the impression that making the revision is necessary. The revision concerns adhering to a convention of academic writing (i.e., if an acronym is introduced, it is used every time to refer to the particular item) which might explain why T perceives the revision as obligatory. The use of the modal verb *should* appears to serve as a way to soften the directive, as it could be phrased in imperative form *don't use*. T also tells S that the full name of the system could be used again in the conclusion chapter. This directive is weaker and functions more as a suggestion. The use of the modal *might* and reference to S's personal preference make the revision appear optional. In sum, the example demonstrates the contrast between stronger and weaker directives. The next example shows an instance of a rearrangement revision in which T's directive somewhat contradicts T's actions.

Example #9: Student 1, conjunction – rearrangement

Revised version:

> Although this method yields [[adjective]] results for more [[adjective]] materials and allows for [[adjective]] behavior, ~~but~~ it is more difficult to… [2]

[2] The use of *although* could arguably be considered intrasentential here. However, the revision was included in the analysis because the addition of *although* was perceived to be of relevance for the nature of the relationship between this sentence and the preceding ones that described the *method*.

Transcript excerpt:

> T: uuh yields accurate for more (--) but is more difficult this but here could've been although , [types *although*] this is the difference between finnish and english , so there's something surprising you start with the positive
>
> S: yeah
>
> T: although this method yields [[adjective]] results for more [[adjective]] materials and allows for [[adjective]] behaviour , this is where you can use it ,[types *it*] it is more difficult to…

In this example, T's revision concerns replacing *but* with *although*. T expresses the revision using a modal verb and past tense (*could've been)*, so the directive is phrased as a suggestion. However, as T describes the revision and the explanation for it, T is already making the revision. Thus, the directive is not actually a suggestion, but appears as a command for an obligatory revision. S does not have a chance to react to the directive before the revision is already carried out by T. Unsurprisingly, S expresses agreement with the revision. It could be argued that it is fairly difficult for a student to express disagreement with a revision after it has already been marked and justified by a teacher. At the end of the excerpt, T's directive gives permission to use *it* (*this is where you can use it*). T generally tells students to avoid the use of personal pronouns so here T needs to make explicit that this is a context where *it* can be used. The next example shows an instance of the weakest kind of directives the teacher used.

Example #10: Student 2, reference – addition

Revised version:

> …to provide information on [[factor + factor + factor]] of the patient. The state of the patient… [[Modifier]] devices…

Transcript excerpt:

> T: yeah so could it be ,[types *The resting state*] or even the state of the patient , can be evaluated maybe or something can be uh..
>
> S: yeah I think that's a bit yeah , the state of the..
>
> T: recent-..
>
> S: ..[voice cuts off for 3secs](patient , okay)
>
> T: [deletes *the resting state*, types *the state*] the state of the patient , the w- I don't know [laughs] or is it just..

> S: [laughs] yeah the state of the patient can be monit- I don't know is it like monitored is monitor
>
> T: I know [types *of the patient*]

In this example, T and S have already discussed for several minutes how to create a beginning to the sentence which connects it with the preceding sentence. *[Modifier] devices* have not been introduced in the text yet, so starting with that contributes to a lack of cohesion. Here, T proposes that the sentence begin with *the state of the patient*. The strength of the directive is relatively weak, as T expresses it in the form of a question and uses a modal verb form *could it be*. T also hedges the revision with *maybe*. The directive thus functions as a suggestion to which S is expected to respond. S seems to accept the beginning of the proposed sentence (*the state of the patient*), since S repeats it and attempts to continue the sentence using the noun phrase. T appears uncertain on whether the suggestion works because T thinks aloud of another way to begin the sentence (*recent*). However, the fact that S seems to find the first suggestion appropriate causes T to finish writing it down, and they move on to discussing the verb that could follow *the state of the patient*. Thus, in this example, the phrasing of T's directive matches its intended purpose. T is clearly uncertain about the best solution for revising the portion of the text, so T expresses the revision as a suggestion. S taking up the revision signals to T that it is an appropriate revision and in response to that T makes the revision.

In sum, directives for revisions were pervasive in the teacher's utterances and despite often being softened with modal verbs and hedging, tended to function as commands. In contrast, the revisions analyzed included only one clear example of a student proposing an original idea of a revision without the teacher's initiation. The following example shows this instance from Student 6's session.

Example #11: Student 6, reference – rearrangement

Revised version:

> This is [[adjective]], since ~~they~~ the results can be easily compared with those obtained from [[modifier + object]] ~~results~~ tests.

Transcript excerpt:

> S: no sorry this could be the the results can be , easily compared , uh with the ones obtained from [[modifier + object]]
>
> T: with those , yeah

S: with those

T: yeah [types *those*] we have we have th- uh , that if it's singular and those if it's plural to refer back to something in a comparison yeah , with those

S: obtained from [[modifier + object]] tests

T: [os 1sec][types *obtained from*](good) yeah , in addition [[modifier]] scale [os 1sec](simulations)..

S: uh sorry uh s- let's just uh replace the results with tests in the end of the sentence

T: yeah oops yeah [adds a strikethrough on *results*, types *tests*]

In this example, S provides a revision for which T has not expressed any need and that is not marked with red by T. Namely, to change the ending of the sentence (*results*) into *those obtained from [[modifier + object]] tests*. The revision immediately before this one had been to substitute *the results* for *they* in the same sentence. Thus, here S realizes that *results* should not be repeated within the same sentence but referred to in another way. S's directive *this could be the the results can be , easily compared , uh with the ones obtained from [[modifier + object]]* appears as a suggestion. The use of *could* weakens the strength of the directive. T takes up the suggested revision but modifies it slightly by providing *those* to be used instead of *the ones*. This presumably once again stems from the convention of engineering writing to avoid personal pronouns. S repeats T's modification which shows that they seem to accept it. T begins to write down the revision while justifying the modification. S then provides the ending of the revision for T to write down. At the end of the excerpt, T has already moved on to the next sentence starting with *in addition* when S points out that the revision has not been fully made by T, as the final word of the sentence is still *results* and not *tests*. T then goes back to finish the revision. This example is an exception among the analyzed revisions because it shows S initiating a revision. Despite S's revision needing slight modification by T, it is a product of S's own thinking process. From a pedagogical perspective, the "error" in S's proposition could even be perceived as a positive thing. It creates a situation of "learning from one's mistake", as T is able to correct the error right when it happens and explain a better word choice in the context of the specific phrase S has thought of themselves.

4.3.3 Revisions the teacher did not explain

The previous sections have demonstrated that the teacher's role in many of the analyzed revisions was significant and student participation was to a notable extent a result of the teacher actively involving them in the interaction. Although the teacher's attempts to involve

students in the revision process characterized most of the revisions, there were instances of revisions that the teacher carried out alone without any participation from the student. Even in these cases, the teacher did usually provide an explanation for what the issue in the text was or a justification for the revision. Thus, such revision interactions proceeded similarly to those in Examples 8 and 9 where the teacher proposed a revision that they clearly perceived as obligatory, justified the revision and made it without the student providing much input. However, there were a few cases in which the teacher did not provide any explanation but simply made a revision. All of these revisions concerned reference, and most were substitutions. The example below demonstrates one such revision from Student 5's session which was actually the session in which most of these revisions occurred.

Example #12: Student 5, reference – substitution

Revised version of the sentence:

> ~~The evaluation~~ This will be achieved by modelling [[number + modifier]] types…

Transcript excerpt:

> T: um so we just put [os 1sec](--)
>
> S: so the blue one is the new one
>
> T: [adds strikethrough on *The evaluation*, types *This*] yeah exactly , this will be achieved by modelling [[number + modifier]] types…

In this example, T substitutes *this* for *the evaluation* without providing any justification for it. T has just explained the color scheme T uses to mark revisions, and S is still focused on that. While S asks the question, T answers and makes the revision. S does not react in any way to the revision, so presumably S agrees with the revision. T's last turn in the excerpt shows that T is already moving on to the next part of the sentence. Revisions such as this where the teacher did not provide an explanation tended to be minor, word level substitutions. Thus, it could be argued that because they are not very significant, they do not necessarily need to be explicitly justified. Also, it should be noted that revisions such as this one were rare, and T did explain the majority of revisions.

4.3.4 Use of teaching material

Since there was an abundance of teaching material that the writing clinic had, it was of interest to see whether the material was used in the revisions of reference and conjunction. The analysis showed that the materials were referred to only seldom, in eight of the 77

identified revisions. Moreover, all of these instances had to do with conjunction, and in terms of revision type, six were substitutions and two were rearrangements. In seven of the eight instances, it was the same handout that was used. The handout was one on formal connectors and included a list of linking words and phrases to use in academic writing, as well as a list of words and phrases that should be avoided. Interestingly, in one of the seven instances the handout was used, the teacher also used the website to demonstrate connector use. As mentioned in chapter 3, the website is a self-study resource available to anyone, not just those participating in the conference sessions. The website is specifically targeted to engineering writing and contains instructions on a wide variety of topics relevant for academic writing. The only instance of the website being used for the analyzed revisions was one where the teacher used it to show the student where the same lists of connectors that were in the handouts could be found on the website.

Aside from connectors, there was one instance of a different handout being used. This was a conjunction revision for which the teacher used a handout on how to present previous research. This instance is shown in the example below.

Example #13: Student 2, conjunction – rearrangement

> T: ..be yeah , and we could if you can find , where these studies <u>are</u> , yeah then d- in that case you would be able to say recently [10sec pause, types *recently*] yeah because t- I couldn't figure out how this fit in what you had here originally cos it was it was a big leap there recently , [[modifier]] devices have been proposed , re- to recently uuh , the <u>state</u> of the patient , has been measured
>
> S: using [[modifier]]
>
> T: recent work [5sec pause] yeah I mean there's there- there's so many ways of getting around this one thing you might want to look at are some of the ways of introducing , in move 1 3 it's uh inside of our materials [displays handout on the screen] it's uh this appendic- appendix 5 , recently much research has , in recent years much progress has been achieved in [[-ing verb]] or [[-ing verb]] the f- the activity state of patients using [[modifier]] whatever it was yeah or
>
> S: yeah

In this example, T is trying to create a connection between two sentences by adding something to the beginning of the second sentence. T suggests that the second sentence could start with *recently* to signal that the sentence is introducing previous research. After making this suggestion T brings up that S might benefit from taking a look at a handout on introducing previous research. T tells S what the handout is called and takes it out. One of the

examples sentences on the handout begins with *recently* which is what T had already written as the beginning of the new sentence. Thus, even though T suggests and writes down the revision before demonstrating it with the teaching material, there is a clear pedagogical purpose that the teaching material serves. Namely, T makes S aware of the existence of such material and explains the content of the material so that S can familiarize themselves with it after the session and benefit from using it in their future writing. In addition, as the example sentences in the handouts reflect what is typical of specifically engineering writing, showing them to S is a way to familiarize them with the conventions of their field of study.

As mentioned, in seven of the eight cases the teaching material used was a handout on connectors. The following example shows one such case.

Example #14: Student 5, conjunction – substitution

> T: nevertheless , is- if you use nevertheless it's saying the opposite of however , [displays handout on the screen] yeah so a- I'll try to make this a little bit bigger maybe [zooms in]
>
> S: aah did I use it wrong m- yeah it's uh from negative to positive it should be
>
> T: yeah so for nevertheless you've said something negative but you haven't you've said something positive if anything
>
> S: yeah so it should be maybe unfortunately , or
>
> T: okay [laughs] yeah
>
> S: cos it it it no it makes sense because I'm talking about that unfortunately even though we have this , uuh situation , uh..
>
> T: but I'm but I'm what I was wondering when I was looking at this [S's name] is , is this necessary information to bring up are you gonna use this somehow later on
>
> S: yeah my uuh [laughs] I mean my literature review basically goes through this
>
> T: okay
>
> S: a- I'm comparing like the [[material]] versus [[material]] (or not) basically or as eeh some studies have a lot of opinions , about how we are comparing them
>
> T: [types *however*] uhuh , I mean it would just be however too
>
> S: yeah however many
>
> T: however many authors uh disagree
>
> S: yes

The revision starts by T pointing out that S has used the word *nevertheless* incorrectly while simultaneously taking out the handout on connectors. The list on the handout divides connectors into different categories based on word class and describes the types of relationships that each of the words expresses. Seeing the list on the screen, S understands the mistake they have made. The list includes *however* and *unfortunately* as the options for expressing an adversative relation of something negative following something positive. S picks out *unfortunately* as the word that could be substituted for *nevertheless*. T is still concerned whether the information in the sentence being revised is relevant, but S justifies that it is. Interestingly, after this justification, T does carry out the revision but not with the word S chose. T writes down *however* instead of *unfortunately* without giving any specific reason for it. It can be interpreted that T thinks *however* is a better word choice even though T does not explicitly say so. This opinion is already evident in that T reacts by laughing when S chooses *unfortunately* from the list. Nevertheless, the pedagogical purpose of using the handout to demonstrate the usage of conjunction items is evident in this example.

5 Discussion

This chapter discusses the results of the analysis. Section 5.1 proposes possible reasons for the role revisions of cohesion played in the sessions with regard to reference and conjunction as well as the different revision types. The section also sets forth factors that may explain differences between the six conference sessions. Section 5.2 discusses how the pedagogical objective of writing conferencing manifested in the sessions.

5.1 Role of cohesion in the analyzed sessions

In terms of the number of identified revisions, the total of 77 revisions in six writing conference sessions is relatively low. It is important to note, however, that although the combined length of the six sessions was almost 10 hours, the length of the text revised in each session was only two pages at most. Thus, the amount of data analyzed in this study was fairly small with regard to the student texts. Nevertheless, it can be noticed from the length of section 4.3 compared to the lengths of sections 4.1 and 4.2 that an emphasis in this thesis was placed on the qualitative analysis of the identified revisions. In order to provide a comprehensive picture of how revisions of cohesion were made, the amount of textual data, i.e. the number of sessions, had to be kept manageable for the scope of this thesis. Future studies might seek to expand the results of this study by analyzing a larger set of student texts.

There is one interesting factor which may have had an effect on the number and types of reference revisions in the sessions. Based on what the teacher taught during the sessions, it appeared that many reference items should be avoided in engineering thesis writing. The avoidance applied to essentially all personal reference items. This was seen in some of the analyzed examples, as the teacher told the students that words like *my, they, them* are not used in engineering writing. Thus, although some of the identified reference revisions were made due to this exact reason, it is probable that the students were, at least to some degree, aware of the fact that they should not use too many personal reference items so their texts did not include that many of them to begin with. At the time of the sessions, some of the students were also taking a course on academic writing, so this information had likely been taught to them in the course. Furthermore, it should be noted that the participants were master's level students, so they can be assumed to have acquired some basic-level knowledge of academic writing during the course of their studies. Despite perhaps not having written many academic texts in English before, the students are likely to have at least read a considerable amount of academic writing from their field in English, so they may have implicit knowledge of relevant

writing conventions like the tendency to leave out personal pronouns. However, based on the revisions analyzed, it seemed that the avoidance of personal reference items resulted in the use of demonstrative reference items instead, so there is no basis for saying that reference items on the whole were used less in the theses than in other types of writing. On the contrary, the nature of engineering writing may have had an effect on the extent to which conjunction items were used in the theses. The teacher did mention in the analyzed sessions that engineering writing tends to be concise. This could hypothetically mean that conjunction items are used less than in some other fields.

Nevertheless, the analysis showed very clearly that reference needed to be revised more than conjunction. Reference was revised more than conjunction in five of the six sessions. The analysis does not, however, reveal the extent to which reference and conjunction items were used correctly, or did not need to be revised. The total number of reference and conjunction features used in the texts was not counted and cannot be compared to the instances needing revision. Thus, it cannot be concluded that the students had more difficulty with reference than conjunction. It is possible that reference revisions were made more simply because reference items occurred in the students' texts more than conjunction items. Also, the results of the analysis reflect what the teacher participant chose to focus on, so it is possible that other teachers would have revised cohesion differently.

Previous studies including those reviewed in chapter 2 have mostly focused on counting the number of cohesive features in student texts and compared what the researchers have perceived as appropriate and inappropriate use of those features. Thus, revising cohesion has not received much research interest particularly in the context of writing conferences. Moreover, the texts analyzed in these cohesion studies tend to be short, opinion-based essays, so their register is significantly different from that of engineering thesis writing. These factors make it difficult to compare the results of the present cohesion analysis to those of previous studies.

However, it is possible to draw some parallels between the cohesion revisions made in the sessions and what other studies have found to be problematic in terms of cohesion in L2 students' writing. The present analysis of different types of revisions showed that about a half of all revisions were substitutions. This is explained by the fact that word choice appeared to be a central issue among cohesion revisions. Among reference revisions, substitutions often concerned the use of demonstrative reference items, particularly *the, this, these,* and *those*

which were both under- and misused. It is not surprising that many substitutions had to do with the use of the definite article *the*. As there are no articles in Finnish, it is natural that L1 Finnish writers struggle with their usage in English. Incorrect article usage was also notable in the results of Ventola and Mauranen (1990). Moreover, Zhang (2000) and Liu and Braine (2005) point out the same issue with regard to L1 Chinese students writing in English. Aside from the article issue, some of the substitutions stemmed from the conventions of academic and engineering writing discussed above. In other words, usually when there was a personal reference item in a student's text, it was replaced by a demonstrative reference item.

A significant portion of conjunction substitutions concerned the misuse of conjunction items. For example, *additionally, although*, and *due to* were used incorrectly as judged by the teacher, and replaced by more suitable items. This resonates with the findings of Zhang's (2000) study in which Chinese undergraduates misused both additives and adversatives. Furthermore, Ventola and Mauranen's (1990) study demonstrated that a significant proportion of conjunction revisions in Finnish researchers' papers were suggestions of alternative connectors, i.e. substitutions. In the present study, some substitutions were also made to replace a conjunction item with one that was more appropriate to academic or engineering writing. The teacher for instance initiated *because of this* and *after this* to be substituted with phrases that were more conventional of engineering writing.

There were very few deletions. This could be interpreted to mean that the teacher did not find overuse of reference or conjunction items in the students' theses. With regard to reference, there was more evidence of underuse, since the number of reference additions was double the number of reference deletions. Additions and rearrangements both occurred 16 times in total, but it was the latter that showed more significant differences between reference and conjunction revisions. Namely, rearrangement was the second most frequent revision type for conjunction. The nature of many conjunction rearrangements was such that introducing a conjunction item caused changes in the sentence structure. For example, the addition of *although* to replace *but* meant that the structure of a sentence had to be slightly altered. In addition, a few of the revisions had to do with combining two sentences that the student had originally had as separate with the second sentence having a conjunction item in the sentence-initial position.

Reference rearrangements, on the other hand, were in many cases the result of eliminating a sentence-final verb. The teacher brought up numerous times during the sessions that putting a

verb at the end of a sentence is what sets non-native writers of English apart from native ones. The teacher referred to it as a common problem among L1 Finnish speakers that when they write in English, they use such passive verb structures that result in sentence-final verbs. A difference between Finnish and English that the teacher mentioned as contributing to this tendency is whether inanimate entities can occur in the subject position and "do things". For example, in English it is standard to say *This chapter describes the method of the study,* whereas in Finnish *this chapter* would not usually function as the subject of a sentence in the same way. Rather, in Finnish the sentence would more readily be expressed with a passive structure (*Tässä luvussa kuvataan tutkimuksessa käytetty metodi)*. If the Finnish way of expressing the sentence were to be directly translated into English, it would result in something like *In this chapter, the method used in the thesis is described*. In the context of the analyzed sessions, the teacher would revise this type of sentences into the first mentioned version of the sentence. Finnish-influenced sentences with the verb at the end were fairly common in the students' writing. Revising them appeared to be important for cohesion because the item that is placed in a sentence-initial position is what connects a sentence to the preceding one and tells the reader what is topical in the sentence. Thus, reference rearrangements often had to do with moving a reference item to the beginning of a sentence to the subject position.

The analysis demonstrated some clear differences between sessions. The total number of revisions per session was fairly equal in Student 1, 2, 4, and 6's sessions. The total of nine revisions in Student 3's sessions, however, is notably lower than in other sessions. The analysis does not provide a straight-forward explanation for this. Student 3's session included instances of all four revision types, so the low number of revisions cannot be attributed to the absence of any revision type. Moreover, the session is not an outlier in terms of the proportion of reference revisions to conjunction revisions. The number of reference revisions was double the number of conjunction revisions, so the student's session fits the general pattern of reference needing more revision than conjunction. What could explain the low number of revisions, however, is the overall quality of the student's text. In the very beginning of Student 3's session before starting the revision process, the teacher complimented the student's text by stating that it was "wonderful". During the course of the session, the teacher also complimented the student on good argumentation, suitable word choices, and successful creation of a research gap. Thus, it could be that overall the text required less revision. The session was relatively long though, so it is likely that the time spent per revision was longer

than in the other sessions. In terms of cohesion, this might mean that there was less need to revise simple, quick-to-fix cohesion issues, so more time could be spent on more complex, time-consuming revisions.

The total of 16 revisions in Student 5's session, on the other hand, is relatively high compared to the other sessions. As mentioned, the session was long, so the number of revisions may partly result from the length of the session. Another factor that makes Student 5's session stand out from the rest and contributes to the high number of revisions is the number of additions. Six additions is twice the number of such revisions in other sessions, even more in some cases. Four of the additions concerned reference and two conjunction. It could be hypothesized that a high number of reference additions is evidence of a text requiring more elementary-level revisions than in the case of substitutions. Addition entails that a reference item is missing from the text whereas substitution entails that there is a reference item, but it is not the most suitable one in the particular context. Thus, in the case of substitution, the writer has been aware of the need for a reference item but failed in choosing the best option. In the case of addition, the writer may have been completely unaware of the need to include a reference item. In sum, the high number of revisions in Student 5's session may be a result of the text needing more revision in issues that were not present to the same extent in the other students' texts. A further feature of Student 5's session that could be perceived as evidence of a weaker quality of the text is the finding that most of the revisions the teacher did not explain occurred in that particular session. Thus, it could be that because there was so much to revise, not every revision could be allotted the time needed to justify the revision. Relatively small revisions such as substitutions of reference items might have been made quickly by the teacher so as to save time and focus for more complex revisions.

5.2 Pedagogical objectives of conferencing in the sessions

The qualitative analysis of how revisions were made provided evidence of the pedagogical approach the writing clinic claims to have, and which is inherent in the concept of a writing conference. There were many characteristics in the teacher's behavior that can be perceived to promote learning. Some of these characteristics can be interpreted as scaffolding mechanisms. Similar to Weissberg's (2006) study, the teacher asked questions, rephrased their own speech to facilitate student understanding (for example by translating things into Finnish), as well as completed and extended the students' contributions. Weissberg (2006) found these scaffolding mechanisms to have a positive effect on the extent to which students participated.

The same could be said based on the present analysis, as the students participated very little without the teacher's explicit encouragement. Questions posed by the teacher were most effective in activating the students, particularly information-seeking questions which often led to the student explaining the subject matter and the teacher asking further questions to clarify meaning.

The role of questions in initiating revisions was more notable in reference than conjunction revisions. Pedagogical questions were used almost exclusively in reference revisions but compared to information-seeking questions they were used fairly little. Why pedagogical questions were not used more might have to do with the advanced level of writing at hand here. The issues that needed revision were often not so elementary level that the teacher would have been able to ask pedagogical questions to initiate them. Thus, the revisions more often required the teacher to ask information-seeking questions to first understand what the potential issue in the text was before being able to say what the best revision would be. An example of this type of situation was seen in substitutions of reference items where the teacher needed to ask the student what a particular word referred to before being able to propose a better reference item for that context. Conjunction revisions functioned somewhat differently, as they more often started out with the teacher pointing out a revision need instead of asking a question. Why this was the case is difficult to say. It could be that in conjunction revisions there were not so many obvious questions for the teacher to ask but rather it was more relevant to explain why the text needed to be revised.

What characterized essentially all the analyzed revisions were the teacher's directives. Although there was variation in the strength of the directives, a significant portion of them functioned as commands. The teacher softened the strength of directives for example by using modal verbs and by expressing revisions as personal opinions (*I think this could be…*) even in situations where they clearly perceived that the revision was obligatory. Thus, many of the teacher's directives were not direct commands but expressed as suggestions most likely for politeness reasons. Compared to direct commands, these indirect commands can also be perceived to give students a better chance to express their opinions. In the case of the present analysis, however, the students did not participate much in response to indirect commands. They rarely expressed contrasting ideas or objected to the teacher's revisions. Only when the teacher's directives were truly weak, which often meant that the teacher expressed them in the form of a question, did the students respond in more elaborate ways than simply providing an

affirmative answer. The teacher's abundant directives together with the relatively passive role of the students contributed to the revision processes being largely managed by the teacher.

Based on the discussion so far, it could be said that to a notable extent a traditional teacher-student relationship existed in the analyzed sessions. For that reason, the concept of scaffolding can be considered relevant for the study's context despite the nature of conferencing in academia discussed by Merkel (2018). While it is true that the students were highly advanced L2 speakers and had specialized content knowledge from an area that the teacher was not familiar with, the teacher was far from a novice content-wise. The teacher had substantial experience of engineering writing and was extremely familiar with the writing conventions of the field. Thus, in terms of register and stylistic choices, the teacher was notably more knowledgeable than the students. The fact that the students readily accepted the teacher's revision suggestions and did not suggest many revisions themselves can be interpreted as evidence of the teacher being viewed as an authority by the students. The teacher also controlled the computer and was the only participant who could mark things in the text which added to the teacher's authority and allowed them to control the whole revision process. However, it is important to remember that the revisions the teacher made in the sessions were not final, but ultimately the student would be the one to decide whether to execute the revisions. Thus, it is possible that the students did not express disagreement with revisions because they knew they could reject them once they went through the text on their own after the session. Unfortunately, the data for this study does not include the final versions of the students' texts, so no conclusions can be made about the proportion of revisions the students accepted or rejected.

Although the results of the analysis suggest that the teacher's expertise was a factor that contributed to the powerful position the teacher had in the sessions, it has to be taken into account that the analysis focused on only a portion of the revisions discussed in the sessions. It is possible that the teacher's lack of content knowledge affected the nature of the revision interaction more in revisions concerning other issues than cohesion. Nevertheless, the analysis of cohesion revisions made clear that the teacher's expertise had an effect on how revisions were made. Much like the experienced tutor in Mackiewicz's (2004) study, the teacher provided focused revisions that fit the exact expectations of the target audience (i.e., engineer readers). In addition, the teacher was able to vary the strength of their directives to signal to the student whether making a revision was obligatory and to express the level of certainty the teacher felt about their revisions. It could be argued that the teacher's expertise facilitated the

process of socializing the students into the conventions of their field which is seen as one of the central objectives of writing a thesis (Thompson 2013).

Not all of the analyzed revisions, however, can be described as teacher-scaffolded interactions. The analysis did reveal some instances of more dialogic interactions as described by Merkel (2018). The teacher's information-seeking questions sometimes led to negotiations of meaning where the teacher had to tap into the student's area of knowledge to determine, if not whether, then at least how a sentence needed to be revised. In these instances, the teacher and student contributed to the interaction fairly equally, as the student tried to explain what they were trying to communicate with the text and the teacher tried to make sense of the student's explanation. This feature of seeking information and providing clarification in the revision process is in line with the findings of Woodward-Kron (2007). From the pedagogical perspective, there are further similarities between the results of Woodward-Kron (2007) and the present study. Namely, the teacher in both studies probed the student for further information and explicitly directed the student on what should be revised. In both studies, the teacher's revisions were in some cases more commands than suggestions. Contrastingly, in the present study, the teacher did use the Initiation Response Evaluation pattern to ask questions, unlike in Woodward-Kron's study (2007). In the analysis chapter, I referred to these questions as pedagogical and consider them to be evidence of the teacher's aim to teach usage of cohesive features within the revision process. It should be noted that the participant in Woodward-Kron's (2007) study was a doctoral student and the paper revised was a research article, so the context was somewhat different than in the present study.

A final point of consideration in terms of how the pedagogical objectives of conferencing manifested in the sessions is the use of teaching materials. The analysis showed that teaching materials were not particularly relevant for revising cohesion in the study's context. Teaching materials were used in very few of the analyzed revisions and all but one of these revisions concerned the use of a handout on connectors. The handout on connectors was highly relevant for conjunction in terms of how it is conceptualized by Halliday and Hasan (1976), so it is not surprising that the particular handout was used for the analyzed revisions. However, there were essentially two handouts directly related to reference, but they were not used for any of the analyzed revisions. One of these handouts concerned article usage. The handout was used in many of the sessions, but only for the purpose of demonstrating the use of articles to create non-unique and unique reference. More specifically, the revisions it was used for mostly concerned the usage of *the*. Since Halliday and Hasan's (1976) definition of cohesion includes

only endophoric reference, *the* is cohesive only when it is used for the purpose of "second-mention" (a noun's antecedent is found in the surrounding text), and its usage in showing uniqueness is not referential. In other words, the revisions for which the handout was used did not concern reference as it is conceptualized in this study. The second handout related to reference was about strategies for improving the readability of a text. The handout explained for example the use of demonstrative reference items and ordering given and new information. Why this handout was not used for any of the revisions that addressed these issues is unclear.

A factor that might influence the use of teaching materials in the sessions of this study as well in writing conferences in general is time constraints. As offering conferences is costly for education providers, they may need to set strict time limits for the length of sessions, and these limits then affect how much can be done in one session. The sessions used as data in this study were fairly long, and the teacher often voiced concerns about going over time or having to rush the revision process toward the end of a session. Thus, it could be that teaching materials would have been used more if the time had allowed it. Using teaching materials to demonstrate revisions may readily take up more time than the teacher simply explaining revisions without using them. In this study, the sessions were held remotely, so using teaching materials required the teacher to actually switch windows from the Word document to the material needed which obviously took up some time. Thus, if short on time, a teacher may opt to not use teaching materials even if they would be beneficial for the student's learning.

On the other hand, it can be questioned whether the use of teaching materials actually contributes to students' learning. It could be that the teacher explaining revisions without using them is enough to facilitate learning in the case of cohesion issues. Thus, if teaching materials do not add anything to the learning process, there is no point for the teacher to use them. Since the present analysis showed that the use of teaching materials was not especially relevant for features of cohesion, it might be more relevant to study their usage in writing conferences in general. If all the revisions made in the sessions had been analyzed, conclusions could be made about the variety of purposes for which the materials were actually used. Since previous studies have not looked at the use of teaching materials in writing conferences, it could be a point of interest for future studies to explore.

All in all, the analysis did not find significant differences in how reference and conjunction were revised. The described characteristics of the revision process apply to both features of

cohesion, although some were slightly more typical of one feature than the other. Similarly, aside from substitutions that concerned reference, clear patterns did not arise in terms of how revisions of different types were made. This might be explained by the fact that the number of times each revision type occurred was fairly small, so patterns of how they were each made did not arise. As substitutions concerning reference occurred markedly more than other revisions, it was possible to notice some frequent characteristics in how these revisions were made. Thus, more conclusive findings on how the revision of reference and conjunction differs, as well as how revisions of different types vary would require a larger data set.

6 Conclusion

The aim of this thesis was to provide insight into writing conferencing as a medium for revising cohesion which is arguably one of the most central aspects of any good writing. As writing conference sessions are perceived to have great potential to help L2 students improve as writers of English, it was of interest to see how the revision process might promote learning with regard to features of cohesion. The context of conferencing in this study was a university writing clinic in Finland, and the participants engineering master's students. In each of the six conference sessions analyzed, a native English-speaking writing teacher revised the introduction chapter of a master's thesis together with the student author.

The conference sessions were analyzed to first find out the extent to which two features of cohesion, reference and conjunction, were revised. The results showed that a total of 77 revisions in the sessions concerned these features. This relatively low number demonstrated that cohesion was not as central to revision as might have been expected. However, the amount of textual data was fairly small, as each of the revised introduction chapters was only around two pages long. There was some variation in the number of cohesion revisions per session which could be attributable to differences in the initial quality of the students' texts. In terms of reference versus conjunction revisions, it was obvious that reference was revised more in the sessions but whether this was due to the texts including more reference than conjunction items or reference use needing more revision than conjunction use cannot be concluded based on the present analysis.

The next phase in the study was to find out the types of revisions that were made concerning cohesion. The analysis showed that half of all revisions were substitutions, thus were made to replace a reference or conjunction item with one that was more suitable in the particular context. Out of the other revision types, additions and rearrangements were made to a similar extent, proportionately more in the case of conjunction revisions. Deletions were very rare which demonstrated that the students did not have an issue with the overuse of cohesive features. However, there were differences between the sessions, and only substitutions and rearrangements were made in all of the sessions.

The revisions identified and categorized were then analyzed qualitatively to understand how they were made and whether there was evidence of a pedagogical approach of helping the students learn about cohesion. The analysis showed that the revision process was largely controlled by the teacher and a student-teacher relationship characterized the interactions. The

teacher initiated most revisions and the majority of them was made based on the teacher's directives. The teacher's lack of content knowledge did not significantly affect their ability to revise which could be explained by the teacher having extensive experience in teaching and revising engineering writing. The teacher's expertise in the conventions of the students' field appeared as a great advantage in terms of pedagogical aims, as the teacher was able to teach usage of cohesive features not in academic writing in general but specifically in engineering writing. There was also evidence of other strategies the teacher used that can be perceived to promote learning. These included asking questions, explaining revision needs, varying the strength of directives to signal how obligatory revisions were, softening directives so as to not express them as commands, and using teaching materials to demonstrate revisions. Although teaching materials were used rarely for cohesion revisions, their usage was clearly connected to the aim of teaching the student instead of merely making revisions.

The analysis has thus provided a better understanding of how writing conferences function as a medium through which L2 academic writing can be taught and regulated. Based on how cohesion was revised, it can be said that conferencing does enable interaction that facilitates the creation of better-quality thesis writing as well as L2 thesis writers' learning. Importantly, the study was exploratory, as previous studies have not investigated how cohesion is revised in writing conferences. Furthermore, there is little research on conferencing with master's students and in Finland this study is the first of its kind.

Although the study has offered a fresh perspective into conferencing in higher education, it is a case study in the sense that the results have to be interpreted in the specific context of the study. Writing conferences in other settings with different teachers and students are likely to function somewhat differently than in this study. This is a common limitation in writing conference studies, as it is difficult to study large sample sizes. As a result, more studies are needed from varying contexts with students of different fields. A particular focus on conferencing with master's students could also have significant practical implications, as thesis writing in English by L2 students is likely to increase in the future. Thus, studies into conferencing with L2 master's students can help to gain a better understanding of the types of linguistic issues these writers may struggle with as well as how to help them in the demanding process of producing a thesis.

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Appendices

Appendix 1

Transcription conventions:

,	Short pause in speech
-	False start or interruption
..	Interrupted turn, turn continues
(-)	Unintelligible word
(--)	Unintelligible segment
(word)	Unclear word or segment
word	Non-English word or segment
<u>word</u>	Emphasis
[comment]	Analyst's comment
[os]	Overlapping speech
[qs]	Quiet speech
[[word]]	Anonymized word

Appendix 2

HELSINGIN YLIOPISTO

PRIVACY POLICY/NOTICE
FOR SCIENTIFIC RESEARCH
EU General Data Protection Regulation
Art. 12–14
Date: 25 Oct 2019

Information about personal data processing in the University of Helsinki research project *Language Regulation in Academia*

The research project *Language Regulation in Academia* involves the processing of personal data. The purpose of this notice is to provide information on the personal data that is processed, the source of the data and how the data is used in the study. For more information on the rights of data subjects and how you can affect the processing of your personal data, please see the end of this notice.

Data Controller

University of Helsinki
Address: P.O. Box 3 (Fabianinkatu 33), 00014 University of Helsinki, Finland

Contact person and principal investigator

Contact person in matters concerning the project:

Name: Researchers in the *Language Regulation in Academia* project Anna Solin, Niina Hynninen and Hanna-Mari Pienimäki
Faculty/department/unit: Faculty of Arts / Department of Languages
Address: P.O. Box 24 (Unioninkatu 40), 00014 University of Helsinki, Finland
E-mail: anna.solin@helsinki.fi, niina.hynninen@helsinki.fi and hanna-mari.pienimaki@helsinki.fi

Principal investigator: see above

Contact details of the Data Protection Officer

The Data Protection Officer of the University of Helsinki is Lotta Ylä-Sulkava. You can reach her at tietosuoja@helsinki.fi.

Description of the study and the purposes of processing personal data

The personal data are processed for the purposes of the *Language Regulation in Academia* research project, and potentially in other research projects related to language studies.

The *Language Regulation in Academia* research project is concerned with, in particular, language perceptions, text production processes, as well as who intervenes in language use in the university context, what forms this intervention takes, and what kind of language use is construed as acceptable.

Who is carrying out the research?

The research is conducted in the University of Helsinki, Faculty of Arts, Department of Languages. Researchers from other universities may participate in the research, and research data that includes personal data may be disclosed to them for purposes of conducting the research.

Personal data included in the research data

The following types of direct and indirect identifiers concerning the study participants are collected in the project (not all information listed below are collected from all study participants):

Direct identifiers: name, contact information, voice, photo / video image, work history.

Indirect identifiers: language skills, work samples, selected research publications and possible other texts related to research or academic work, perceptions and views expressed by study participants.

Sources of personal data

The personal data are collected in the following ways (not all methods concern all study participants):

Interviews, observation, audio recording, video recording, photographing, collection of different versions of selected documents from study participants and from public and semi-public sources (e.g. intranet of the study participant's organisation, research publication platforms, public websites and social media), email communication.

In addition, upon agreement, supplementary research data owned by other academic institutions may be disclosed to the project. These data may be collected, for instance, in the following ways:

In addition to the methods listed above, collection of different versions of student texts and teaching materials as well as any other materials produced to support teaching from study participants and from public and semi-public sources (e.g. e-thesis archives).

Sensitive personal data

No data considered as special category data under Article 9 of the General Data Protection Regulation will be processed in the study.

Duration of processing

The researchers mentioned in section 2, as well as other members of the project and researchers to whom data have been disclosed may continue to process the personal data for their research purposes also after the project has ended and also in other research related to language studies. The personal data will be processed until the *Language Regulation in Academia* project as well as other studies which use personal information collected in this project have ended. After this, the information is archived as explained in sections 11 and 15.

If personal data collected in this research project are disclosed to another research project, the purposes of this other project determine how personal data are processed in it, and research participants will be informed according to the General Data Protection Regulation.

Lawful basis of processing

Personal data is processed on the following basis, which is based on Article 6(1) of the General Data Protection Regulation:

☒ performance of a task carried out in the public interest or in the exercise of official authority vested in the controller:
- ☒ scientific or historical research purposes or statistical purposes
- ☐ archiving of research materials or cultural heritage materials

☐ participant's consent
☐ compliance with a legal obligation to which the controller is subject
☐ legitimate interests pursued by the controller or by a third party
description of the legitimate interest:

If processing is based on the consent of the participant, the participant has the right to withdraw their consent at any time. The withdrawal of consent does not affect the lawfulness of processing based on consent before its withdrawal.

Recipients of the personal data

In the course of the research project, the personal data may be used by the project researchers and research assistants. At their discretion, the project researchers may also use research data that includes personal data (e.g. audio recordings) for teaching purposes, provided that the possibility for identification is minimised so that the people in the teaching situation cannot recognise the participants by using means that they are likely to have at their disposal. In addition, thesis/dissertation writers may process personal data collected in the project if this is necessary for the purposes of their study.

Academic collaborators may take part in the research project and be disclosed research data owned by the University of Helsinki that include personal data as described in this

privacy notice. The disclosure of personal data for this purpose is based on enabling scientific research with the collaborators and processing the data for research purposes.

In addition, personal data processed in this project may later be processed in other projects related to language studies and they may also be disclosed to another data controller for the purposes of linguistic research, for instance through the Finnish Social Science Data Archive or The Language Bank of Finland (however with the University of Helsinki as the disclosing part).

Under an obligation of confidentiality, personal data may be transferred to companies providing transcription services. The companies function as data handlers for the University of Helsinki.

Transfer of personal data to countries outside the EU/European Economic Area

No personal data will be transferred to recipients outside the European Economic Area.

Automated decisions

No automated decisions with significant effects on the participants are made in the study.

Safeguards to protect the personal data

The personal data are processed and stored in such a way that only persons who need the data for research purposes can access them.

Personal data processed in IT systems:
☒ username ☒ password ☐ logging ☐ access control ☐ encryption
☐ other: *(please specify)*

How data in physical format (e.g. paper) is protected: storage in lockable cabinets in lockable rooms

Processing of direct identifiers:
☐ The data is collected without direct identifiers
☐ Direct identifiers will be removed in the analysis phase
☒ The material to be analysed includes direct identifiers. Reason: The data analysis is only possible with direct identifiers.

Retention of personal data after the completion of the study

☐ The research material will be deleted
☒ The research material will be archived:
☒ without identifiers ☐ with identifiers

Where will the material be archived and for how long: With permission from the study participants, those parts of the data that can be anonymized will be archived permanently in the Finnish Social Science Data Archive, The Language Bank of Finland or similar archiving service.

Your rights as a data subject, and exceptions to these rights

The contact person in matters concerning the rights of the participant are the persons mentioned in section 2 of this notice.

Rights of data subjects

According to the General Data Protection Regulation (GDPR), data subjects have the right

- of access to their data
- to rectification of their data
- to the erasure of their data and to be forgotten
- to restrict the processing of their data
- to data portability
- to object to the processing of their data
- not to be subject to a decision based solely on automated processing.

Not all of these rights can be exercised in all situations, depending on factors such as the basis for the processing of personal data.

For more information on the rights of data subjects in different situations, please see the Data Protection Ombudsman's website: https://tietosuoja.fi/en/what-rights-do-data-subjects-have-in-different-situations

Exceptions to data subject rights
Under the General Data Protection Regulation and the Finnish Data Protection Act, certain exceptions to the rights of data subjects can be made when personal data is processed in scientific research and fulfilling the rights would render impossible or seriously impair the achievement of the objectives of the processing (in this case, scientific research).

The necessity of exceptions to the rights of data subjects will always be assessed on a case by case basis.

Right to lodge a complaint
You have the right to lodge a complaint with the Data Protection Ombudsman's Office if you think your personal data has been processed in violation of applicable data protection laws.

Contact details:

Data Protection Ombudsman's Office (Tietosuojavaltuutetun toimisto)
Address: Ratapihantie 9, 6th floor, 00520 Helsinki

Postal address: B.O. Box 800, 00521 Helsinki
Tel. (switchboard): 029 56 66700
Fax: 029 56 66735
E-mail: tietosuoja(at)om.fi

Appendix 3

Consent form for participants in project research

Project name: Language Regulation in Academia
Researchers: Anna Solin (PI), Niina Hynninen and Hanna-Mari Pienimäki, University of Helsinki

The following text explains the aims of the project and what kind of data will be collected. Please read the text carefully in order to decide whether you are willing to participate. The researchers will be happy to answer any questions you may have.

I. The aims of the project

The project focuses on different mechanisms of language regulation, i.e. different ways in which language use is monitored and intervened in. The studies explore institutional directives and guidelines such as language policy documents as well as situated practices of regulation as they are enacted in the everyday work of different academic actors (e.g. researchers, administrators, language revisers, teachers and communication specialists). The aim of the project is to provide a broad picture of mechanisms of language regulation in academia.

II. Data collection and participation

Project researchers will collect textual data which has relevance for language regulation, observe and document writing processes and observe/record discussions during writing processes. They will also make use of observations made during fieldwork. Researchers will interview different members of academic communities, who will be asked to describe practices of language regulation which impact their work. The approach is ethnographic, which means that some participants will be asked to engage with the project on a long-term basis. These participants' experiences and practices will be examined more closely.

Participation in the research is voluntary and participants are free to withdraw at any time.

III. Anonymity and data processing

The texts and audio recordings will be processed for analysis and stored electronically. Interview data will be audio or video recorded, transcribed and translated where necessary. Passages from the transcripts and texts may be used in scholarly publications and presentations, as well as for outreach and teaching purposes. Your identity as an informant will be protected: any identifying information will be anonymised as far as possible when data is used in publications and for the other above-mentioned purposes. The data will be used within the Language Regulation in Academia project (eventually including our collaborators and Master's students) and stored for possible further use by project researchers. With your permission, the anonymised data may be archived for further use after the completion of the project.

IV. Participant's permission

I have read the consent form and understand the conditions of participation. I have had the opportunity to discuss the consent form with the researchers. Any questions I have about this

research have been answered to my satisfaction. I agree to this contract by signing this form and agree to participate in the research with the following conditions.

I consent to the research use of the data in which I am involved. YES NO

I agree to the archiving of the collected data for further use after the completion of this project.

YES NO

Signature _____ Date _____

Name _____

If you have any further questions about this study, please contact:

Anna Solin, project director
Department of Languages
P.O. Box 24 (Unioninkatu 40 B)
FI-00014 University of Helsinki